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AN EARLY ARCHAEOLOGICAL SITE NEAR PANUCO, VERA CRUZ

RICHARD S. MacNEISH

National Museum of Canada

With a Foreword by Alfred V. Kidder

THE AMERICAN PHILOSOPHICAL SOCIETY

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FOREWORD

ALFRED V. KIDDER

Of the multitude of problems that face students of the pre-Columbian history of the New World two are fundamental: that regarding the time and the method of the peopling of North and South America by the Indians; and that of the origin and spread of the remarkable civilizations found established in parts of both continents at the time of their discovery by Europeans.

Both these matters are also of more than hemispherical interest, the first because it involves one of the major movements of man in his spread over the globe; the second because of its bearing on the nature and the history of civilization. The present paper deals with one aspect of the latter. Its significance may best be made clear by a series of questions.

Was New World civilization derived from Asia, or was it evolved independently? If independently, were its two highest developments—in Middle America and in the Andean region of South America—also of independent origin or did the one stem from the other?

These questions are of much concern to anthropologists because of many striking similarities in material culture, social organizations, religious practices, and the arts between the civilizations of the two hemispheres. These are hard to account for because both the American and the Asiatic civilizations had their seats very far south of Bering Strait, the only possible passageway for overland migration or tribe-to-tribe transmission of influences. Thus effective contact, if overseas, would have been hindered by the formidable barrier of the Pacific; deterred, if by land, by enormous intervening distances, as well as by harsh environments on either side of the Strait. In the case of Middle America and the Andes, difficulties were much less, but communication would nevertheless seriously have been hampered by the jungles of the Isthmus.

Neither the interhemispherical or the intercontinental question can yet be answered with confidence. If they could we would be well on our way toward solving the fundamental problem of whether what we call civilization arose but once and was passed from people to people, or whether it came into being among various peoples in response to an innate human urge, given suitable conditions, to take, and seemingly to take in more or less the same sequence, certain similar steps toward a better ordered and richer existence.

These matters, so important for a true understanding of the capacities of man, cannot be settled until we have far more accurate knowledge than we now possess of the high cultures on both sides of the Pacific and of both North and South America, their history, their content, and, most necessary of all, the at least approximate time when this or that advance was made.

We now come to the place of Dr. MacNeish's investigation in the larger picture. Its general setting is Middle America, where there flourished, among the Maya and other groups, the highest civilizations of North America. Enough has been learned to make it certain that they stemmed from a simpler and more generalized culture usually called the Formative. But the place and the time of its origin are unknown. It appears throughout Middle America already in possession of pottery, agriculture, weaving, and was practised by people living a sedentary life—in other words well on their upward way.

Until recent years the attention of archaeologists was devoted almost exclusively to such striking achievements of later periods as the Maya temples and sculptures and the great pyramids of Teotihuacan. But discoveries of the obviously earlier Formative remains and a growing realization of the important role the Formative played in giving rise to the higher Middle American cultures, have led to its intensive study. Being far from primitive, it must have had its roots in a still older culture. Did this come into being somewhere in Middle America? No evidence of such a pre-Formative stage has yet come to light. Were its forerunners in South America? Could the first steps have been taken overseas? Is it possible that it had its beginnings in eastern United States, where there existed ancient pottery-making cultures believed by some students to owe their origin to influences entering the New World via Bering Strait?

In Middle America some of the oldest-seeming Formative remains are found along the Gulf of Mexico coast from northern Vera Cruz southward. Their northernmost known occurrences are at sites on the lower reaches of the Panuco River, where Dr. G. F. Ekholm in 1941–1942 found stratified Formative remains running backward, or rather down, to a culture as little developed as any then recognized in Middle America but, like all other Formative remains, far from primitive (Ekholm, 1944). Dr. MacNeish, in the course of an archaeological survey of the northeastern Mexican state of Tamaulipas in 1948–1949, extended his investigations to the Panuco area in a search for still older materials, which he hoped might serve to link the pottery-making Formative cultures to certain pre-ceramic cultures of inland Tamaulipas. He had the good fortune to encounter deposits whose uppermost strata contained pottery of types identical

to Ekholm's lowest and these were underlain by several strata carrying wares that, as he went downward, became progressively more different, and in some ways more primitive, than those above.

How MacNeish's materials should be interpreted in terms of Middle American and the more general problems outlined above can be determined only when much more work has been done in Mexico and Peru and even in Asia. But it is clear that these few meters of potsherd-filled earth on the Panuco have added a new paragraph to one page of one volume of the story of civilization that may eventually be written.

PREFACE

This report is the first of three based on materials gathered by the 1948–1949 Second Tamaulipas Expedition. Since the materials to be reported on here are but little connected with those of Tamaulipas and since the excavation did not take place in Tamaulipas it was decided to discuss this material separately from the rest. I am particularly indebted to Dr. Paul Fejos and other members of the Viking Fund of New York City for making this archaeological expedition financially possible. I am equally grateful to Mr. I. Marquina, Mr. E. Noguera, Wilfrido Du Solier, and other officials of the Mexican Government for giving me official permission to undertake these endeavors in their country.

In the field, Roberto Pavon, Alberto Aguilar, Leonardo Ponce, and Julio Tortua of Panuco, Vera Cruz, my wife, June Helm MacNeish, and various citizens of Mexico were most helpful and their assistance is appreciated. In the analysis of the materials, the Director, R. Mireles of Escuela Rural of Ciudad Victoria, was most generous in allowing me to use his faculty smoking room as a laboratory and providing me with spacious tables, storage space, and adequate lighting. I also would like to thank the employees, students, and professors of that school for their unfailing hospitality and much help that they so willingly gave. Re-sorting and preparation for shipment of part of the material to the United States took place in the Museo Nacional in Mexico, D. F. Señor Rubin de la Borbolla was most cooperative in allowing me space in the Museum and putting at my disposal various members of his staff so that this task could be accomplished quickly and efficiently.

I would like to express my appreciation to Wilfrido Du Solier, not only for all that he did for me in the way of leading me through the maze of government regulations with the shipment of a type collection to the United States for illustration, but for his advice, enlightening discussion concerning the Huasteca, and hospitality which have always made my trips to Mexico City a pleasure.

After the excavation, Dr. Helmut de Terra, then a Research Associate of the Viking Fund, Mr. Glen Evans of the Texas Memorial Museum, and Mr. Alex Krieger of the University of Texas were most kind in giving their time and energy to a brief geological study of the area of excavations at Panuco. I am most grateful for their endeavors.

In undertaking the comparative aspects of the archaeological analysis, assistance and advice were received from many quarters. Dr. Gordon Ekholm of the American Museum of Natural History, Dr. A. M. Tozzer of the Peabody Museum of Harvard University, R. E. Smith and E. M. Shook of the Carnegie Institution, Wilfrido Du Solier, Eduardo Noguera, and Señor Rubin de la Borbolla of Mexico, and Robert Wauchope of the Middle American Research Institute of Tulane University are thanked for their assistance and advice.

I appreciate the help of Dr. Gordon Ekholm and various members of the staff of American Museum of Natural History in New York for receiving and cataloguing the type study collection of materials from Mexico, and for aiding me in the analysis.

In conclusion, I am grateful to Mrs. G. MacQuarrie for typing the manuscript, Mr. A. E. Ingram for the drawings, and Mr. E. C. Elliott for photographing the materials, all members of the staff of the National Museum of Canada. I also would like to thank Dr. Douglas Leechman for allowing me to work on these materials at the National Museum of Canada and for his advice concerning the manuscript.

R. S. MacN.

AN EARLY ARCHAEOLOGICAL SITE NEAR PANUCO, VERA CRUZ

RICHARD S. MACNEISH

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I. INTRODUCTION

THE PROBLEM

The archaeological expedition of 1948–1949, under the auspices of the Viking Fund of New York City, had as one of its primary problems the investigation of pre-pottery remains in northeastern Mexico. It was hoped that pre-ceramic horizons might be found, their cultural complexes defined and their cultural remains related to either the pre-ceramic remains of the valley of Mexico or to early ceramic periods in Meso-America.

Previous years' work (1945–1946) in the Sierra de Tamaulipas, Estado de Tamaulipas, Mexico, had indicated the existence of a pre-pottery artifact assemblage under the ceramic-bearing Pueblito complex.[1] Figurines of the Pueblito complex seemed to justify the interpretation that it was roughly contemporaneous with Teotihuacan in the valley of Mexico and with Periods II and IV of the Tampico-Panuco area. However, whether or not the pre-ceramic remains in the peripheral Tamaulipas area were earlier than the late Formative Stage of Meso-America could not be determined in central and northern Tamaulipas as early Formative remains are absent. Therefore, it was decided to undertake a few excavations in the Tampico-Panuco area, only one hundred miles southeast of the Sierra de Tamaulipas. Here Gordon Ekholm had found so called "Archaic" remains (called Periods I and II) that were roughly contemporaneous with other early ceramic horizons in Mexico.[2] It was hoped that excavations of sites having Period I remains on their surface in the northern Vera Cruz region might reveal in their lower levels earlier ceramic and pre-pottery cultural complexes. A study of pre-pottery complexes from the Tampico-Panuco area, it was hoped, would allow for a much better interpretation of the non-ceramic remains in Tamaulipas.

Inherent in any investigations of problems concerning early remains in the Huasteca is the secondary problem of the Maya-Huastec relationships. Linguistic studies show that Maya and Huastecs speak closely related tongues.[3] Recent linguistic studies indicate that the Mayan stock may be divided into two families: Mayoid and Quichoid. The Quichoid family includes a number of languages used in the highland Maya area, while Mayoid is found in the lowlands, Yucatan, and the Huasteca. Of the various Mayoid languages the Choloid language spoken by the lowland Maya from Tabasco to the Peten is considered to be closest to the Huastec.[4] An historical reconstruction based on the linguistics of the Mayan stock reveals briefly the following picture: the original proto-Maya language was first divided into two main linguistic families, Quichoid (highland) and Mayoid (lowland); then the Mayoid family divided into two sub-families, Huastecan and Maya Proper, while at a later date Huastecan, Maya Proper, and Quichoid divided into a series of languages.[5] From the standpoint of Huastec-Maya history, this linguistic picture is particularly significant in that the Huastec are shown to be closer linguistically to the Chontal, who speak a lowland Maya language, than to any of the highland Maya languages, and that the separation of the Huastec and lowland Maya sub-families occurred more recently than did the separation of the highland and lowland Maya language families.

Although it is generally recognized that there is no intrinsic relationship between material culture and language, it is often reasonable for the historian or archaeologist to expect that groups related linguistically may have, in some period in their past, shared a similar cultural tradition.

With the Huastec-Maya linguistic relationships in mind, let us see what the archaeological data (previous to the 1948 excavations at Panuco) had to offer on the subject of relationships. In the Tampico-Panuco region, Gordon Ekholm had undertaken an excellent archaeological study and established a sequence of six distinctive ceramic periods.[6] Many new pottery types, unrelated to previous types, appear in each period and give the "impression of a series of waves of influences intruding into the area."[7] These waves of influence in the various periods appear to flow in from a number of centers of development in Meso-America. Period V and Period VI's affiliations are almost entirely with the Valley of Mexico. Vessel forms, ceramic designs, pastes of certain wares, spindle whorls, pipes, copper objects, and many other traits abundantly attest to the influencing of Periods V and VI of the Panuco-Tampico area by the Mazapan, Aztec I, Aztec II, and Aztec III complexes in the Valley of Mexico. Period III and IV show strong influences from Tajin of northern Vera Cruz and from Teotihuacan in the valley of Mexico. Evidence for such a conclusion is to be found in similar (if not identical) mold-made figurine types, the use of slab feet and various other ceramic features. The relationships of Period II of the northern Vera Cruz area seem to be specifically not with the Valley of Mexico but with Middle Tres Zapotes, in southern Vera Cruz, Lower I and II of Cerro de Las Mesas of central Vera Cruz, and the Chicanel Period of Uaxactun in the Peten of Guatemala. Vessel forms, figurines, and polished black pottery (El Prisco Black at Panuco and black ware in Middle Tres Zapotes) indicate a relationship between Middle Tres Zapotes and Period II at Panuco. About as strong or slightly less strong than the Panuco-Middle Tres Zapotes nexus are the Chicanel-Panuco resemblances. The paste, surface

[1] MacNeish, 1947. (See bibliography for complete references.)
[2] Ekholm, 1944.
[3] J. A. Mason, 1940.
[4] Mason, 1940; Kroeber, 1940; and conversation with McQuown concerning studies by Dr. Manuel Andrade.
[5] Discussion with McQuown of the Department of Anthropology, University of Chicago.
[6] Gordon Ekholm, 1944.
[7] Gordon Ekholm, 1944: 504.

characteristics, and vessel forms of El Prisco Black show enough resemblances to materials from the Chicanel Period of Uaxactun to indicate some sort of kinship. Dr. Caso felt that the gray pottery of Monte Alban II has certain resemblance to that of Panuco Gray of Period II in the Tampico-Panuco region.[8] The meagerly documented ceramic complex of Period I of Panuco indicated that the paste of the Chila White pottery type resembled that of some sherds in Monte Alban I, though most of the other features did not. Robert E. Smith was of the opinion that Chila White vessel forms were reminiscent of the Chicanel period at Uaxactun, while a few specimens of the red painted ware at Panuco bore resemblance to daub ware, a minority type in the Mamom Period of Uaxactun.[9] Gordon Ekholm felt that Period I might tentatively be correlated with the Mamom Period of Uaxactun. In my opinion the Period I pottery of Tampico-Panuco is more similar to the pottery of Chicanel than to that of Mamom, but I have seen only a few sherds from Uaxactun.

However, in spite of the different ceramic complexes and the numerous affiliations with other areas during each period in the Tampico-Panuco region, it was felt that there was cultural continuity and there were "at no time any complete replacements of populations," [10] though there may have been shifting of peoples and great amounts of diffusion into the area at certain critical periods. Evidence of continuity were the pottery types Heavy Plain, Panuco Gray and ladles, and figurine types developing through all periods, as well as the numerous pottery types that persisted through two or more periods, such as Zaquil Red, Panuco Fine Paste, Zaquil Black, etc. Whether this evidence for continuity is conclusive will, of course, depend on considerable more work in the Huasteca. One fact is most significant. None of the objects excavated by Ekholm in the eastern Huasteca showed exclusive or even very many resemblances to any Maya materials thus far uncovered.

Turning briefly to the lowland Maya area at Uaxactun, a sequence of four ceramic periods has been established.[11] The later periods, Tepeu and Tzakol, need not concern us, as they are associated with the "classic stage" of Maya culture, evinced by the calendar, hieroglyphs, a sophisticated arithmetical notation, large stone cities, complex specialized architecture, and a complex ceremonialism, etc. In the earlier periods, Mamom and Chicanel at Uaxactun, there are definite similarities with the Guatemala highlands "Archaic" (especially at Kaminaljuyu) in both figurines and some pottery types (mainly red wares).[12] Furthermore, Lower Tres Zapotes in southern Vera Cruz displays many similarities to the Mamom Period.[13]

From the above discussion it is apparent that there is a very poor correlation between the Maya-Huastec relationships indicated by the linguistic data and the relationship shown by the archaeological information. This raises a problem and a series of questions that archaeology must answer. On a more general level is the question of whether the historian and archaeologist are justified in expecting any archaeological connection (*in re* material culture) between peoples linguistically related. On a more specific level is a series of questions that hinge on the problem of whether the six ceramic periods (or any earlier periods) in the Tampico-Panuco area represent peoples speaking the Huastec language of Mayoid language family. If the Tampico-Panuco sequence either in part or *in toto* does not represent remains of Huastec-speaking peoples, then when did the people of this area start speaking this language and whence did it come? However, if the ceramic periods in northern Vera Cruz do represent the remains of Huastec-speaking peoples (as Ekholm's evidence indicates) then there is a series of other questions. At what time were the Maya and Huastecs connected or in contact with one another? What was the nature of the relationship between the peoples of the Huasteca and the Maya area in prehistoric times? A closely connected question is when and by what process did the Huastec become separated from their linguistic brothers in the Maya area?

In the following pages may be seen the evidence brought to bear on the above-mentioned problems. It will be immediately apparent that the attempt to uncover pre-ceramic remains in the Huasteca and to solve the problem of the relation of the pre-ceramic complexes of Tamaulipas to other remains of Meso-America via the Huasteca met with failure. However, in regard to the problem of Maya-Huastec relationships, I believe the 1948 excavations just north of Panuco have brought to light new evidence. These new data obviously do not solve all the problems. Nevertheless, this information indicates the possible and even probable answers to some of the questions and certainly allows for a re-defining of the problems concerning the Maya-Huastec relationships.

THE GEOLOGY OF THE AREA OF THE EXCAVATIONS

As an introduction to the archaeological excavations and the cultural stratigraphy of the area immediately north of Panuco it is fitting to give a brief summary of the natural stratigraphy and geological history. It was most fortunate that Dr. Helmut de Terra of the Viking Fund of New York City, Mr. Alex Krieger of the Department of Anthropology of the University of Texas, and Mr. Glen Evans of the Texas Memorial

[8] Ekholm, 1944.
[9] *Ibid.*
[10] *Ibid.*
[11] R. E. Smith, 1936.
[12] R. E. Smith, 1940.
[13] Drucker, 1943*a*.

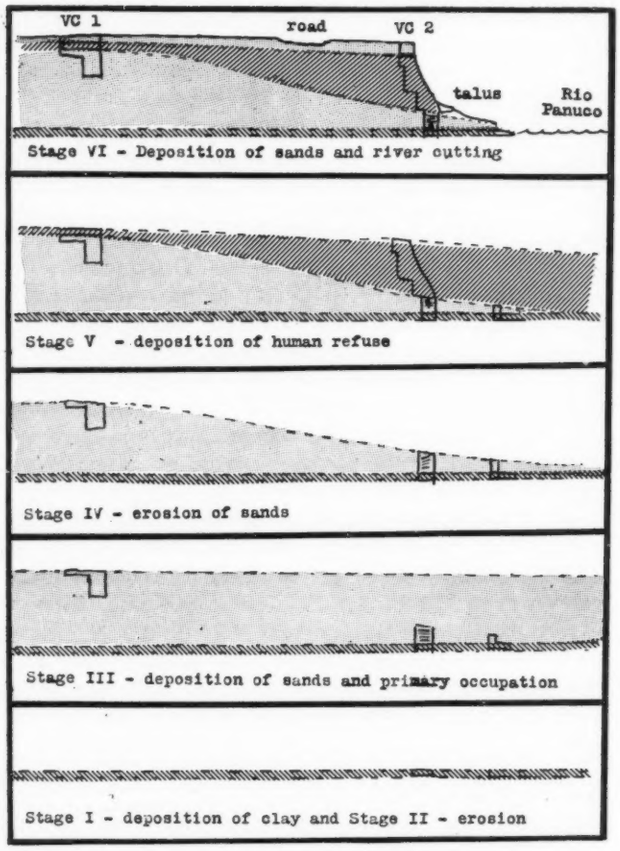

VC 1
road
VC 2
talus
Rio Panuco
Stage VI - Deposition of sands and river cutting
Stage V - deposition of human refuse
Stage IV - erosion of sands
Stage III - deposition of sands and primary occupation
Stage I - deposition of clay and Stage II - erosion

FIG. 1. A reconstruction of the geological history from VC-1 to VC-2.

Museum of Austin, Texas, visited the site and briefly studied the geology of the area. Their opinions, observations, and the results of subsequent discussions as well as my own observations at the excavations have been incorporated in this summary of the geology of the excavations.

Since the geological observations and conclusions are based upon the results of the excavation of the test pits VC-1 and VC-2, as well as a study of the strata apparent in the river bank adjacent to the excavations, it is necessary to review these data. (The exact locations of the pits are indicated in the map, fig. 2.)

The excavation of VC-1, about eighty feet west of the bank of the Panuco River, consisted of four five-foot squares forming a ten-foot square dug to a depth of four feet. The northeasternmost five-foot square was subsequently extended to a depth of twelve feet. Observations of the walls of the various squares (see figs. 11, 26, 27, 31, 32) revealed that the top two feet of this test pit were composed of bands of waterlaid sands interspersed with two humus layers, all of which was underlaid by a darker stratum of refuse and sand. This lower layer evidently represented a redeposition of refuse and sands by water action (floods?) as the sherds in it were waterworn and thin lenses of sand appeared. This set of layers, for the most part the result of water action, I shall refer to as Zone A. Below Zone A was a one to two-foot stratum of refuse within which were short thin horizontal lenses of burned clay, and from which two pits and a narrow trench extended downward. This man-made stratum I call Zone B. Observable in the lowest portion of the ten-foot square, and particularly in the northeasternmost five-foot square that extended to a depth of twelve feet, were waterlaid and aeolian sands, Zone C. The surface of Zone C was irregular and appeared to have been eroded. At the time of this first excavation, this disconformity was noticeable mainly in the deepest five-foot square and no significance was attached to it until after VC-2 was dug.

The excavation of VC-2 was directly east of VC-1 and along the edge of the bank of the Panuco River. This trench in its northern five-foot square extended to a depth of twenty-six feet (water level). The length of the trench, for reasons of safety, was diminished from its original eighteen feet at the surface, to five feet in the lower levels, so the upper levels revealed a larger cross-section than the lower part. The top two to three feet of this second excavation was almost identical with that of Zone A of the first excavation. It had the same number and variations of sand and humus layers and the dark layer of re-deposited sand

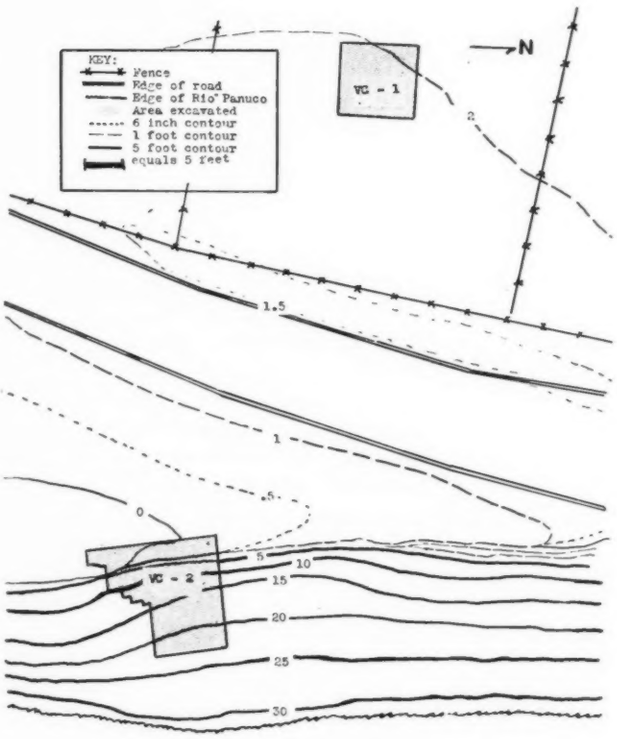


FIG. 2. Datum depth contour map of VC-1 and VC-2 with excavated areas indicated.

and refuse at its bottom. Therefore, I believe it valid to assume that it represents the same zone. (The public highway between excavation VC-1 and VC-2, as well as time and expense, prevented us from connecting the two excavations by a trench and thereby proving or disproving this assumption.) Under Zone A there were approximately thirteen feet of refuse containing many artifacts as well as such cultural features as post molds, pits, hearths, and burned clay floors. Again, I believe it is valid to assume that at least part of this layer is connected with Zone B of the first excavation (cultural materials confirm this assumption). Below Zone B were compact sand strata interspersed with thin lenses and layers of cemented refuse composed of charcoal, clay, ash, and artifacts. There is an erosional disconformity between these cultural layers, Zone B, and sand strata, Zone C. They are separated by an irregular layer of relatively loose sand, clay, and artifacts which evidently represents erosional deposits. This supposition is supported by the fact that Zone C has an undulating surface representing erosion. The fact that Zone C, being composed in the main of waterlaid and aeolian sands, displays a disconformity with Zone B leads me to the conclusion that this stratum, particularly the upper portion of culturally sterile sand layers below the refuse, is connected with Zone C of VC-1 and may be considered the same geological zone of roughly the same temporal horizon. At a depth of twenty-three feet the same zone gradually merged into a layer of bluish gray clay which continued down into the water level. This clay stratum is called Zone D.

It was also possible to examine the river bank both north and south of the excavation of VC-2. Briefly, this study revealed that north of our excavation Zone A extended for at least half a mile and, though the bank was less steep and not as at VC-2, the thickness of the zone stayed about the same. South of VC-2 Zone A continued for about one-half mile and then disappeared where the bank became noticeably higher and formed the small plateau upon which most of the habitations of Panuco are at present situated. Owing to vegetation, Zone B was difficult to observe north of the excavation but it appeared to have thinned out to the vanishing point at six hundred yards north of the site. Southward from the trench (VC-2), Zone B in the first one hundred yards narrowed to a thickness of six feet and then appeared to be either increasing or to have another layer of refuse above it, separating it from Zone A. Zone C is a bit more complex, as the culturally sterile upper one foot of sand at VC-2 increased to a thickness of ten feet and the thin cultural layer below it disappeared altogether fifty yards south of the excavation. Northward from the excavations this zone was difficult to study because of vegetation and talus. However, by one hundred and fifty yards north, this zone, or another sandy layer below Zone B, had increased to fifteen feet in thickness and the cultural strata were absent. Zone D of bluish gray clay appeared just above the water level north and south of the excavation, and in a few places (particularly just south of Panuco) its irregular surface formed small peaks or plateaus seven to eight feet above the water level.

The above-mentioned stratigraphic data may be interpreted in the following manner (see fig. 1). The bluish-gray clays, Zone D, appear to have been deposited during a wet period. Mr. Glen Evans, of the Texas Memorial Museum of Austin, was of the opinion that these clays might possibly be correlated with the Beaumont clays of coastal Texas, laid down during the Pluvial or just post-Pleistocene period. Unverified reports of "giant bones" (possibly mammoth) around Panuco at water level height tend to support such a correlation. Dr. Helmut de Terra agreed with this general opinion and was particularly impressed by the erosion of the surface of the bluish-gray clays which he felt may have taken place during a dry period following this first wet period in very early Recent times. There evidently was a considerable time between the formation of Zone D and the subsequent deposition of Zone C, during which the erosion of Zone D took place. The building of Zone C by water and sand as well as man's occupational debris appears to have taken place rather rapidly and probably close to the river bed of that period. Mr. Evans, noting the disconformity between Zone C and Zone B, and the erosion of Zone C in the area of the excavation, did not feel that this next stage of erosion necessarily took a great deal of time while Dr. de Terra commented that evidently another dry period had occurred between the deposition of Zones B and C. It was felt, however, that some time did elapse between the occupations in Zone B and Zone C and that a break in the cultural sequence might be present. The man-made Zone B, in spite of its depth, appears to be of a short time period, being separated by a considerable gap in time from the deposition of Zone A and the erosion of the present bank by the river. Since historic artifacts were found in the lower section of Zone A it must have been deposited in the last four hundred years. In summary, it appears we have evidence of: Stage I, deposition of clays, Zone D, possibly in pluvial time, followed by Stage II, a dry period of erosion of the clays taking a considerable length of time; Stage III saw the first occupation by man and the building up of the sands by wind and river action, Zone C; Zone C in turn was partially eroded away, Stage IV; Stage V witnessed the concentrated occupation of the area by man and the accumulation of refuse, Zone B; this was followed in turn by a long period when no deposition was made until about four hundred years ago when Zone A was built up and the bank eroded by the meandering Panuco River, Stage VI (see fig. 1).

II. A REPORT ON VC-2

EXCAVATION TECHNIQUE AT VC-2

Previous to my arrival in Mexico in 1949, Roberto Pavon at my request had made a brief survey around Panuco, searching for sites having no pottery or sites with large amounts of Period I materials. He found nine sites with Chila White materials in some abundance, and during my first week in the area I visited them and made further surface collections. Of all these sites, VC-2 was the most promising because three feet down from the top of the bank one could dig out Chila White sherds, while below this depth were thirteen feet more of refuse, obviously older. Below this zone of refuse were thin layers of refuse in hard compact sands that superficially appeared to be without pottery (though later found to contain sherds).

The area excavated, VC-2, was located along the bank of the Panuco River where Calle Progreso of Panuco met the River. Actually the excavation was rather small, though my crew was large. Three laborers, Alberto Aguilar, Leonardo Ponce, and Julio Tortua from Panuco, Vera Cruz, Mexico, with ten days' previous archaeological experience, were under the immediate supervision of Roberto Pavon who had had considerable archaeological training under Dr. Ekholm as well as under myself. My wife and I performed the more technical duties such as photography, surveying, drawing of profiles, and taking levels, as well as supervising and training the crew.

FIG. 3. Cleaning off a level at a depth of 11 feet at VC-2 in an attempt to see cultural features.

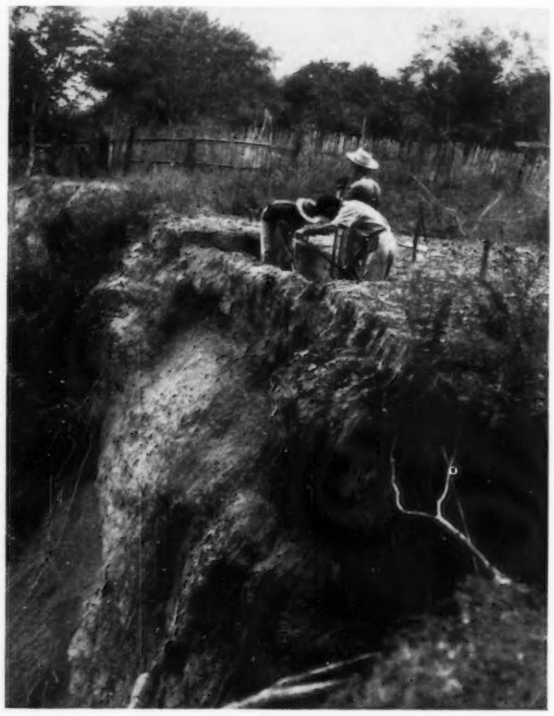


FIG. 4. Excavation begins at VC-2. Note the barrier left along the edge of the bank

Preliminary to excavation the site was photographed from a number of different angles, including shots from a boat in the river directly east of the site (see fig. 6). Next, the area of both sites (VC-1 and VC-2) was surveyed with alidade and plane-table, and a one-foot contour map was drawn. Then a north-south line of four stakes called 0-0, N5, N10, N15 was set up by use of a surveying instrument and a steel tape. This north-south line of stakes was roughly parallel to the edge of the bank and about three feet west of it. On the exact edge of the bank four markers were placed directly east of the four north-south stakes, thereby dividing the surface of the trench into three parallel units (in the field notes these were called squares E5, east five; N5 E5, north five east five, and N10 E5, north ten east five).

The digging technique consisted of excavating each unit by trowel or mattock (depending upon the hardness of the soil) to a depth of 6 inches at a time. Two-man teams worked in each unit, one usually digging and unearthing the artifacts, the other sifting the dirt, dumping it over the bank, cleaning the area excavated, and placing the artifacts in their appropriate cloth sack. Barriers a few inches thick were left between each unit, thus preventing any possible mixture of materials from each square (see fig. 4). When the rest of the units had been removed to a depth of 6 inches these barriers were removed. Finally, at a depth of 10 feet the process of leaving barriers between squares was aban-

FIG. 5. The test pit into sterile soil in the northwest quadrant of VC-1. Zones A, B, and C are very apparent.

doned as the working space was getting rather limited. Along the edge of the bank a barrier 2 to 6 inches thick was left so no materials uncovered could spill over the bank, and also so that any artifact or earth in that barrier, in all likelihood having fallen from higher strata at some past time, could be kept separate and not included in the material from the level being dug (see fig. 4). When the 6-inch level was completed the barriers were removed and the next level started. Materials found in each unit and level or from the edge of the bank were put in 3-, 5- or 10-pound cloth sacks which contained a tag inside as well as outside with the correct square, level, and site written indelibly on it. Any features such as pits or post molds were carefully cleaned, photographed, and sketched (see fig. 3). This technique continued to a depth of 5 feet.

At this depth the walls were not only straightened (by plumb bob) and cleaned (by trowel) but vertical strings were hung down from each stake, the walls were photographed, profiles drawn, soil content of the strata noted, and the strata and features given arbitrary names or numbers. The depth of the floor was also checked by use of a surveying instrument. When this was completed the next level was started one foot east of the long wall as a safety precaution against landslides or falling debris. Also, the south unit was gradually stepped in from the surface so that at a depth of 8 feet it no longer existed. This was done so one could get down to the excavation fairly conveniently (see fig. 9).

Work continued as described above to a depth of 5½ feet where floor 1 was encountered and taken off as a level. The strata below it and floor 2 underlying it were also stripped off. The next level went down to 8 feet. The excavation then continued to a depth of 10 feet in the manner described in the preceding paragraph. At this depth walls were again smoothed, straightened, photographed, and drawn and the depth checked by instrument. Then again the west wall was stepped out one foot as a safety measure.

At this stage of the excavation the archaeological material became quite sparse and no sharply differentiated features were apparent. Therefore, one-foot levels were resorted to in our usual manner of excavation. At a depth of 13 feet in the middle unit a burned floor underlain by a dark charcoal-impregnated layer of clay was encountered. This was removed as a layer and was just about one foot thick. In the northern unit the situation was more complex as no burned floor existed and the dark stratum sloped downward and had a pit extending down from it. The materials from the yellowish brown refuse, the dark stratum and the pit were bagged separately. At 15 feet 6 inches (just below the dark stratum) another safety step was made. However, since chunks of dirt and materials from the top 3 feet of sand occasionally fell on the workers in spite of the two steps above, and since the ever-present group of visitors persisted in balancing themselves along the edge of the trench, a 3-foot step from the wall (and 5 feet from the original stakes) was made to protect the workers from any object (or person) that might fall (see fig. 6).

Below the 3-foot wide step (at a depth of 15 feet 6 inches) the materials were removed in one-foot levels to a depth of 17½ feet from the top, when the first thin layer of cemented ash, charcoal, artifacts, and clay was encountered. The talus at the foot of the bank was also encountered at this time; it was dug separately and the materials sacked as a unit. Excavation continued with the habitation layers and sterile

FIG. 6. The excavation of VC-2 down to Zone C.

FIG. 7. Excavation of the exterior wall after level 16 had been completed.

sands between being stripped off as layers until a depth of 22 feet was reached. Another one-foot safety step was made at 19 feet. From a depth of 22 feet to 26 feet (water level) the stripping off of the sand and habitation level continued only in a 5-foot square, the northern unit. The last 2 feet in the culturally sterile clay layers was only partially dug owing to water seepage.

THE STRATIGRAPHY OF VC-2 (See fig. 11)

The top 3-foot layer of the excavation is called Zone A and was composed of sand, humus, and refuse (see figs. 7–11). More exactly the first 1½ inches of the soil consisted of the present humus which was underlain by 3 to 7 inches of waterlaid (evidently by floods) white sands. At a depth of 5 to 8 inches, about 3 inches thick, was a thin layer of humus and refuse which in turn overlay yellowish-white waterlaid sands down to a depth of about 2½ feet. Cultural items in these layers were rare and included four pieces of glass, three nails, two pieces of iron, seven glaze sherds, and two sherds of Huasteca Black on White. At a depth of 2½ feet to roughly 3 feet was a layer of loose brown sand containing waterworn artifacts of a number of different cultural periods (Modern Period, Period VI, Period V, Period II, and Period I). I have interpreted this layer as being deposited by flood action, redepositing artifacts, from perhaps a wide area, with the sands. This evidently took place over the long period (Period I to Recent times) when the area was not occupied. In terms of the analysis Zone A is called level 1 (though actually it was dug in six 6-inch levels).

FIG. 8. Looking down into VC-2 from the southwest corner.

At a depth of 3 feet a dark layer of clayish loam, impregnated with charcoal and artifacts, was encountered (see figs. 9, 10). This dark brown layer continued to a depth of 5 feet. Four post molds extended down from the dark layer. The posts formed a semicircle, one end of which was in the north wall (see fig. 29) 2 feet 3 inches east of the west wall, while the other end was 4 feet south of the north wall of the trench along the western trench wall. This first dark stratum is called sub-zone 1 of Zone B and is considered to have been built by refuse from human habitation. Levels 2 through 5 were four 6-inch levels dug from this sub-zone. This dark stratum, sub-zone 1, gradually merged into a lighter colored zone, called sub-zone 2, about 6 inches to 1 foot thick. This was also considered to be refuse deposited by the local inhabitants and levels 6 and 7 were dug from it. Sub-zone 2 overlay a layer of burned clay and chunks of caliche, floor 1, which though indistinct and thin in the southern portion of the trench was almost a foot thick in the northernmost unit. This is level 8. Below it was 1 foot of dark loam, evidently refuse, that became level 9, called sub-zone 3. Below this refuse was another thin layer composed of burned clay and charcoal, called floor 2, that I consider to be a habitation layer. This sloped slightly downward from south to north, falling about 6 inches in 12 feet. This is level 10. Underneath floor 2 was a grayish brown stratum, called sub-zone 4. When this was dug no soil differentiations or sub-zones were apparent, but after the soil had dried for a week it became obvious that the strata sloped sharply downward from south to north, the bottom of the sub-zone being 9 feet deep under stake N5 while it was 11.3 feet deep at the north edge of the trench. The first 6-inch layer removed from this stratum is called level 11. In terms of the sequence of the pottery types and the slope of

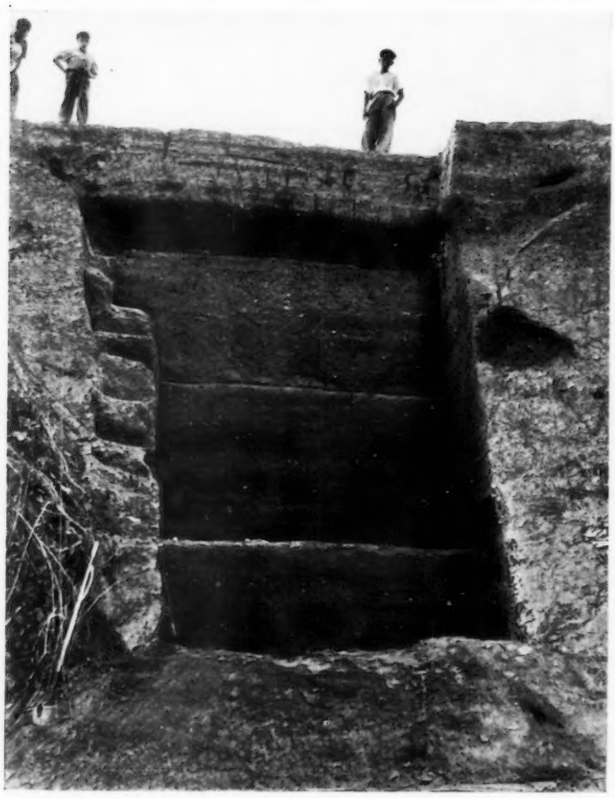


FIG. 9. A photograph of the west wall of VC-2 above Zone C.

FIG. 10. The vertical profile of the north end of VC-2. This may be checked against the cross-section drawing of figure 11.

the sub-zone, the next 6-inch level and next 1-foot level in only the north unit are considered level 12 and 13 respectively (fig. 11, pp. 560–561). The 6-inch layer from 8 to 8½ feet from the surface in unit N5 and the layer from 9½ to 10 feet from the surface in unit N10 are called level 14. This overlays the yellowish clay zone at the bottom of sub-zone 4. This clay zone is called sub-zone 5. The layers from 8½ to 9½ feet from the surface in unit N5 and from 10 to 11 feet from the surface in unit N10, just overlaying and including part of the yellow clay stratum (sub-zone 5), are level 15. The sequence of types by levels and the slope of the layers seem to justify such a staggered correlation of the 6-inch levels in the two units. Thus

CHART 1

FREQUENCIES OF POTTERY TYPES AT THE VARIOUS LEVELS OF VC-2 EXPRESSED IN PERCENTAGES

Levels	Progreso White, subtype Cylindrical Punctate	Progreso Metallic	Progreso White, undifferentiated	Progreso White, subtype Hub and Spoke	Ponce Black	Progreso White, subtype Opposed Areas	Aguilar Red	Aguilar Gray	Progreso White, subtype Incised Curvilinear	Progreso White, subtype Linear Punch	Chila White	Finer Plainware	Aguilar Red, subtype Linear Punch	El Prisco Black	El Prisco Black, subtype Fresco decorated	Zaquil Red	Las Flores Red on Buff	Las Flores Relief	Huasteca Black-on-White	Spanish Glaze	Totals used in computing the percentages of types	Heavy Buff	Heavy Plain	Unidentified sherds	Total sherds found
1			5							2	10	2		3	1	10	3	1	1	1	39		11	208	258
2			.19 18		.01 1	.01 1	.07 6	.16 15		.03 2	.47 45	.07 6									94	4	117	171	386
3			.19 37		.01 2	.04 7	.07 12	.18 34		.02 3	.37 64	.07 12	.02 4								175	7	207	93	482
4			.22 35		.09 14	.04 7	.03 5	.10 15		.01 2	.43 71	.10 16									166	4	160	56	386
5		.91 3	.42 126	.00 1	.11 32	.04 13	.03 8	.14 43	.01 3	.01 2	.23 69	.01 2									392	3	153	57	515
6		.01 2	.67 213	.00 1	.05 18	.03 11	.06 20	.09 32	.01 6	.01 2	.12 43										348	57	117	12	534
7		.01 9	.54 383	.01 5	.09 61	.06 40	.13 96	.09 67	.02 17	.00 2	.05 39										719	86	269	7	1,081
8		.04 31	.56 425	.01 5	.15 112	.04 32	.10 78	.09 68	.01 2	.00 1											754	199	304	9	1,266
9	.00 4	.04 50	.57 712	.02 25	.13 160	.03 39	.09 114	.12 147	.00 1												1,252	106	711	16	2,085
10	.00 2	.03 35	.65 653	.04 37	.14 138	.04 42	.06 61	.08 75													1,043	56	433	53	1,585
11	.00 2	.07 37	.59 289	.07 33	.10 51	.04 21	.06 30	.06 32													495	32	140	6	673
12	.01 2	.03 9	.67 170	.04 10	.13 34	.03 9	.02 6	.05 13													253	10	67	3	333
13	.00 1	.04 14	.66 255	.07 28	.16 49	.03 11	.03 10	.04 15													383	20	91	2	496
14		.14 28	.60 120	.11 22	.12 25	.01 3	.02 4														202	18	97	2	319
15		.12 28	.63 146	.08 19	.15 34	.01 3	.01 2														232	5	72	8	317
16	.00 1	.13 35	.65 166	.11 27	.10 26		3?														258	14	45	9	326
17		.10 18	.64 121	.11 20	.13 25	.02 3	.00 1														188	8	26	47	269
18	.00 1	.08 20	.65 167	.10 26	.14 37	.02 6															257	17	70	41	385
19	.01 4	.17 65	.62 232	.12 44	.08 31																376	36	158	2	572
20	.02 8	.17 68	.64 263	.12 47	.05 22																408	40	165	2	615
21	.11 6	.35 17	.57 28																		51	16	16		83
22	.04 20	.88 434	.08 39																		493	43	71		607

Grand Total 13,573

sub-zone 4 evidently represents earth and refuse that had been dumped down an incline. Larger amounts of refuse dumped in its northern portion gradually caused its surface to become level. Then people were able to live on it, forming floor 2. Below sub-zone 4 of grayish-brown clayish loam is a 6-inch layer of yellowish clay, evidently representing a wash of relatively sterile yellow clay down the edge of the bank. This clay alluvium is called sub-zone 5 and overlays a yellowish brown stratum of loam called sub-zone 6. Layers from 9½ feet to 11 feet from the surface in the N5 unit and the layer from 11 to 12 feet from the surface in the N10 unit, both taking in part of sub-zone 5 and most of sub-zone 6, are called level 16. Below sub-zone 6 of brown loam is a layer of yellowish brown sandy loam. This stratum slopes from a depth of 10.8 feet at the south edge of unit 5 to a depth of 13.2 feet from the surface at the north end of the trench. The layers from 11 to 12 feet from the surface, almost entirely in the upper portion of sub-zone 6 in unit N5, and the layer from 12 to 13 feet from the surface in unit N10, taking in the lower portion of sub-zone 5 and the upper portion of sub-zone 6, are entitled level 17. The lower portions of sub-zone 6 in both squares are level 18. Sub-zone 6 evidently represents refuse dumped down a bank.

Below sub-zone 6 was a dark layer of clay, loam, ash, and charcoal about 1 foot to 1½ feet thick. The top of this layer sloped from approximately a depth of 13 feet from the surface in the south end of this trench to about 15 feet from the surface at the north end of the trench. Over much of the surface in the south portion of this layer were chunks of wattle and daub, thin horizontally laid pieces of burned clay and thin patches of charcoal lying horizontally. This is considered to be the remains of a house floor, floor 3. Also extending down from this layer in unit N10 was a large pit. This stratum is called sub-zone 7 and is considered to be an occupational layer. Level 19 came from this layer.

Underlying the occupational layer, sub-zone 7, was a stratum of light brownish-yellow loose sand and artifacts (sub-zone 8). The bottom of this stratum was wavy, irregularly shaped, and hard to find during excavation. The 1-foot level from a surface depth of 14 to 15 feet in unit N5 and the 1-foot level from 15 to 16 feet in unit N10 (level 20) included sub-zone 8 and a small portion of the next lower zone. Sub-zone 8 represents the stratum above the disconformity between Zones B and C. It has been interpreted as having been deposited by alluvium and refuse that was washed or dumped onto the eroded surface of Zone C.

Level 21 comprises the area from the top of Zone C down to the first occupational level in that zone. This sub-zone, composed of cemented sand containing a small amount of clay, was comparatively sterile of cultural remains. As may be noted in figure 2, the bottom of the stratum overlying floor 4 at a surface depth of 17 feet is almost level, while the surface of the zone slopes downward from south to north. The stratum is thicker on either side of the excavation and evidently much of the original top of this zone had been eroded away in the area of excavation. From floor 4 to a depth of about 24 feet were eight thin layers of cemented refuse, ash, charcoal, and clay (called floors 5 through 12), separated by a layer of compact sand and clay. Evidently these floors represented occasional occupations of the river flats by small groups for short periods of time, and the sand represented wind and water deposits laid down in the intervals between the occupations.

The materials from all the floors in the analysis have been lumped together and called level 22 because of the sparsity of materials from any one floor as well as the similarity of materials from each occupational lens.

The sands of Zone C gradually increased their clay content to a depth of about 24 feet when the irregular surface of the water-impregnated bluish-gray clays was encountered. Water at a depth of 26 feet halted work. No artifacts were found in the clays.

CERAMICS OF VC–2

INTRODUCTION

In the excavations of VC-2 about 15,000 potsherds were found. It was hoped that analysis of these sherds in light of their stratigraphic position in the excavations would show the ceramic changes that had taken place and allow for the delineation of ceramic periods. It was felt that a sequence of ceramic periods and ceramic complexes might give a measuring stick by which the movements of peoples, diffusion of traits, and other cultural changes might be comprehended. It was particularly fortunate that Gordon Ekholm had already made an excellent start in establishing pottery types in this area and it was hoped that these materials would supplement his fine data.[14]

The pottery, after first being washed and catalogued under my wife's and my own supervision, was placed in boxes corresponding to each unit and level. Next three large tables were marked off into columns, each column corresponding to a level. Owing to the great number of sherds and the relatively small space on the tables it was decided to analyze only unit N10 at first, so the sherds from that unit were laid out on the table in their appropriate positions.

The primary conceptual tool for showing ceramic changes and delineating ceramic periods was the "pottery type." I conceive a pottery type as being a class or group of sherds composed of interrelated similar ceramic features or modes of ceramic features that have temporal (stratigraphic) or spatial significance.[15] To me, a pottery type is an *arbitrary* classification of a continuum of ceramic changes and variations of ceramic

[14] G. Ekholm, 1944.

[15] W. A. Ritchie and R. S. MacNeish, 1949: 98.

features into units that will assist in reconstructing history and understanding the cultural changes that took place. It was felt that ceramic types could be arbitrarily established by a comparison of the sherds (with their various ceramic features) from the various stratigraphic levels and determining what the changes were. Ceramic features may be defined as the variations of paste (temper, consistency, color, firing, etc.), surface finish, decoration, shape, and appendages.

In the analysis, once the sherds from unit N10 had been laid out in columns marked on the table corresponding to their respective stratigraphic levels, an examination of the paste was undertaken. It was found that there were six general paste groups, some of which had stratigraphic significance. For example: group 1 had excellent consistency, very small amounts of very fine, almost microscopic, sand and calcite temper and was fired to a hardness of about 4.5. It had temporal significance in that it appeared in large amounts only in Zone C and was virtually absent in the upper levels of Zone B.

Next the surface finish of the sherds was studied. There were seven kinds of surface finish (see chart 3). It became immediately apparent that the six paste groups could be further divided into twelve paste-surface finish groups, nine of which had stratigraphic, i.e., temporal, significance. Now the twelve paste-surface finish groups were examined as to kinds of decoration.

Here it was necessary not only to use the tables but also to put the decorations on charts, various levels constituting the ordinate and the various kinds of decoration the abscissa (see chart 4). I faced a dilemma in typology at this time for it became apparent that many of the sherds in each paste-surface finish group were not decorated, and, secondly, that occasionally specimens with the same kind of decoration had exactly the same stratigraphic significance, although the sherds belonged to two or three of the paste-surface finish classes. The same difficulty was faced in comparisons of vessel form and appendages (see chart 5). For this reason it was decided that the nine paste-surface finish groups having significant stratigraphic variation should be called types and that variations in decoration, shape, and appendages, if they had significance in time, were to be called changes within the type, or sub-types. Thus I avoided setting up types on the basis of decoration or vessel form only. Besides the types I established in my analysis, it was possible to classify certain sherds into types that Ekholm had already set up.

After the study of the ceramics of unit N10 was completed, a similar study of the rest of the excavation was made, the results compared, and the types checked. The sherds were laid out on the floor which had been marked off the same as the surface of the table. Actually, no important difference between the two analyses was noted.

There were, of course, a few sherds that had such individuality that they defied classification into any established types. These have been called aberrant sherds and may represent trade sherds. I have endeavored to identify them whenever possible, as well as to have other individuals working in the Middle American field identify them. Generally speaking, I have not been successful. However, I will describe the sherds and illustrate them with the hope that at some future date, if they are trade sherds, future workers will identify them and will thus, perhaps, better correlate my periods with others in Mexico.

In describing the pottery types I shall endeavor to adhere to the usual tenets of pottery description.[16] Furthermore, I shall describe the changes that take place within the types as well as indicate the temporal (stratigraphic) significance of the types. In the summary on pottery types I shall also attempt to describe and illustrate the more general ceramic developments and introductions of new stylistic concepts.

Once the types and sub-types were established, a large frequency chart of their stratigraphic position in terms of levels was drawn (see chart 1). In the cross-section drawing the levels are marked by black lines (see fig. 11). With this ordering of the data it was possible to set up periods. It was possible also to correlate these periods with those of Ekholm by comparison with his frequency chart and his pottery type descriptions. It was felt that a period should be represented by a distinctive series of pottery types, or sub-types, and pottery features in a number of consecutive levels. Thus a new period could be recognized by a series of changes, such as the introduction of two or more new types or sub-types, the dying out of older types or radical shifts in the frequency of older types, or the introduction of a number of radical changes within types. Since most of the pottery is monochrome and not greatly varied in paste, and since the greatest changes are within types or by sub-types, perhaps my delineation of new periods has been too fine and does not represent quite such radical shifts as are to be found in Ekholm's following periods. However, it must be remembered that my periods are considerably older and that, particularly in the beginning, the stylistic concepts and ceramic features are not numerous and that the ceramic changes, though not numerically so great as those of Ekholm, are percentage-wise much greater.

Ekholm had previously established six periods for the area of Panuco and numbered them Periods I to VI.[17] As will be shown, my materials, though overlapping with his Period I, are for the most part much earlier.

[16] Report of the Conference on Southeastern Pottery Typology, held at the Ceramic Repository for the Eastern United States, Museum of Anthropology, University of Michigan, Ann Arbor, Michigan, May 16–17, 1938 (mimeographed); *cf.* Ford and Quimby, 1945: 52–67.

[17] G. Ekholm, 1944.

CHART 2

DECORATION, VESSEL FORM, AND APPENDAGES OF THE VARIOUS POTTERY TYPES AT THE LEVELS OF VC-2

Periods		Chila				Aguilar								Ponce						Pavon		
Levels	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
PROGRESO METALLIC TYPE																							
DECORATION																							
Technique																							
Appliquéd ridges																			1				1
Design																							
Appliquéd ridges on the shoulder radiating from the neck																			1				1
Total sherds decorated					1														1				2
VESSEL FORM as indicated by rim profile																							
Hemispherical bowl																							
Rim profile 14 of figure 17																		1					1
Flaring rimmed small mouthed olla with neck at an acute angle to the shoulder																							
Rim profile 47 of figure 17					1						1							1		2		1	6
Rim profile 48 of figure 17								2		1									1	1	1	8	14
Rim profile 49 of figure 17										1										1		15	17
VESSEL FORM as indicated by basal sherds																							
Flat bottom																			2		2	6	10
TOTAL SHERDS OF PROGRESO METALLIC					3	2	9	31	50	35	37	9	14	28	28	35	18	20	65	68	17	434	903
HEAVY BUFF TYPE																							
TOTAL SHERDS OF HEAVY BUFF		4	7	4	3	57	86	199	106	56	32	10	20	18	5	14	8	17	36	40	16	43	781
DECORATION																							
Technique																							
Fabric impressions								2															2
Design																							
Fabric impressions on a thickened lip								2															2
Total sherds decorated								2															2
VESSEL FORM as indicated by rim profile																							
Jars																							
Rim profile 30 of figure 17							1		2	1	1								3	2			10
Rim profile 31 of figure 17									1	2													3
Plates																							
Rim profile 32 of figure 17						1														5			6
Rim profile 33 of figure 17															1								1
Rim profile 34 of figure 17											1									1			2
Rim profile 36 of figure 17													1							1			2

CHART 2—*Continued*

Periods		Chila				Aguilar								Ponce							Pavon		
Levels	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
HEAVY BUFF TYPE—*Continued*																							
Ollas																							
Rim profile 50 of figure 17									1								1						2
Rim profile 55 of figure 17						1	3	3	2	1			1	2				1	1				16
Rim profile 56 of figure 17		2						2	2														6
Rim profile 60 of figure 17																			1	1			2
Rim profile 63 of figure 17																				1		1	2
VESSEL FORM as indicated by basal sherds—																							
flat bottom									5						1				1	2		1	10
APPENDAGES																							
Unbridged spout																				1?			1
Double loop handle								1	1														2
PROGRESO WHITE TYPE																							
DECORATION																							
Technique																							
1. Linear Punctate	2	2	3	2	2	2	2	1															16
2. Linear Punctate and incising						1	3	2	1														7
3. Combing			1			1		1			2	1	1	2	2	1	2	1	2				17
4. Incising	3	3	11	8	27	23	85	50	63	85	56	22	42	29	25	32	30	54	58	54	2?		762
5. Circular Punctate									4	2	2	2	1			1		1	4	8	6	20	51
Design																							
sub-type Linear Punch																							
1. Parallel lines of linear punctates	2	2	3	2	2	2	2	1															16
sub-type Incised Curvilinear																							
2. Wavy bands composed of combed or incised parallel lines					3	5	14																22
3. Wavy bands composed of combed or incised parallel lines with areas of incised cross-hatching						1	2																3
4. Wavy bands composed of combed or incised parallel lines with parallel lines of linear punctates							1	2	1														4
sub-type Opposed Areas																							
5. Opposed areas filled with parallel and then cross-hatched incised lines							16	12	8	1	1			1			1	2					42
6. Areas of cross-hatching separated by a band of incised parallel lines						1	4		1	1					1								8
7. Opposed areas of parallel incised lines		1	7	7	13	10	20	20	30	40	20	9	11	2	2		2	4					198
sub-type Hub and Spoke																							
8. Hub and spoke filled with parallel incised lines						1	3	3	20	28	26	9	25	20	12	10	14	10	19	18			218
9. Hub and spoke filled with cross-hatched incised lines					1		2	2	5	9	7	1	3	2	7	16	5	10	23	16			109
10. Checkerboard with diagonally opposite squares filled with parallel incised lines																	1	2	1	4			8

CHART 2—*Continued*

Periods		Chila				Aguilar								Ponce							Pavon		
Levels	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
PROGRESO WHITE TYPE—*Continued*																							
11. Checkerboard with diagonally opposite squares filled with cross-hatched incised lines																1		4	1	9			15
undifferentiated as to sub-type																							
12. Cross-hatching	3	2	4	1	10	7	13	12	8	5	4	2	4	3		2	4	11	2	2			99
13. Curved parallel lines							1	2	1			2		3	1	1	1		3				15
14. Straight parallel lines					?		1			1					4	2	4	9	5	5	2?		33
sub-type Cylindrical Punctate																							
15. Areas filled with overlapping circular punctates in opposition to undecorated areas									4	2	2	2	1			1		1	2	4	3	10	32
16. A spiral composed of a line of overlapping circular punctates																					1		1
17. Areas filled with overlapping circular punctates separated from each other by undecorated bands and a line or lines of overlapping circular punctates																			2	4	2	10	18
Total sherds decorated	5	5	15	10	29	27	79	54	78	87	60	25	44	31	27	33	32	53	58	62	8	20	842
VESSEL FORM as indicated by rim profiles																							
Outsloping straight-sided bowls																							
Rim profile 1 of figure 17			1		1	2	4	3	3	3	2	1	2	1	1	1	3	6	10	9	1		54
Rim profile 2 of figure 17		1	5	1	3	2	4	5	5	11	4	1	6	3	1	5	5	7	7	11	1	1	89
Rim profile 3 of figure 17		1	2	1	6	4	12	17	14	17	8	8	12	4	12	11	10	9	10	16	1		175
Rim profile 4 of figure 17		1		1	1	2	3	3	1	6	4		5	3	3	4	12	12	18	19	1	2	101
Rim profile 5 of figure 17					2	1	2	1	1		1		1		2		1			5		2	19
Rim profile 6 of figure 17										1	1		1		2		3	2	1	3			14
Flaring-sided bowls																							
Rim profile 7 of figure 17							2			2					1		1	2	2	3			13
Rim profile 8 of figure 17			1		8	5	11	16	12	15	10	3	6	4	10	4	4	9	2	9	3		132
Rim profile 9 of figure 17		1		1	2	1	3	11	12	8	1	2	2	5	3	3	7		3	11	1	4	81
Flaring-sided bowls with a basal ridge																							
Rim profile 10 of figure 17			1						1											1			3
Rim profile 11 of figure 17					1									1		2	2						6
Vertical incurved-sided bowl																							
Rim profile 12 of figure 17		1	1	1	1		2																6
Rim profile 25 of figure 17				1				1										1		2			5
Rim profile 26 of figure 17				1																			1
Hemispherical bowl																							
Rim profile 13 of figure 17						1	1	2		1	1		1		1			1		3			12
Rim profile 14 of figure 17			1		2	6	13	4	4	5	3	2	3		3	5	2	9	13	11			86
Incurved rim bowls																							
Rim profile 15 of figure 17							1		2								1			2	2		8
Rim profile 16 of figure 17		1																					1
Rim profile 17 of figure 17					1	1	2		2	1							1						8

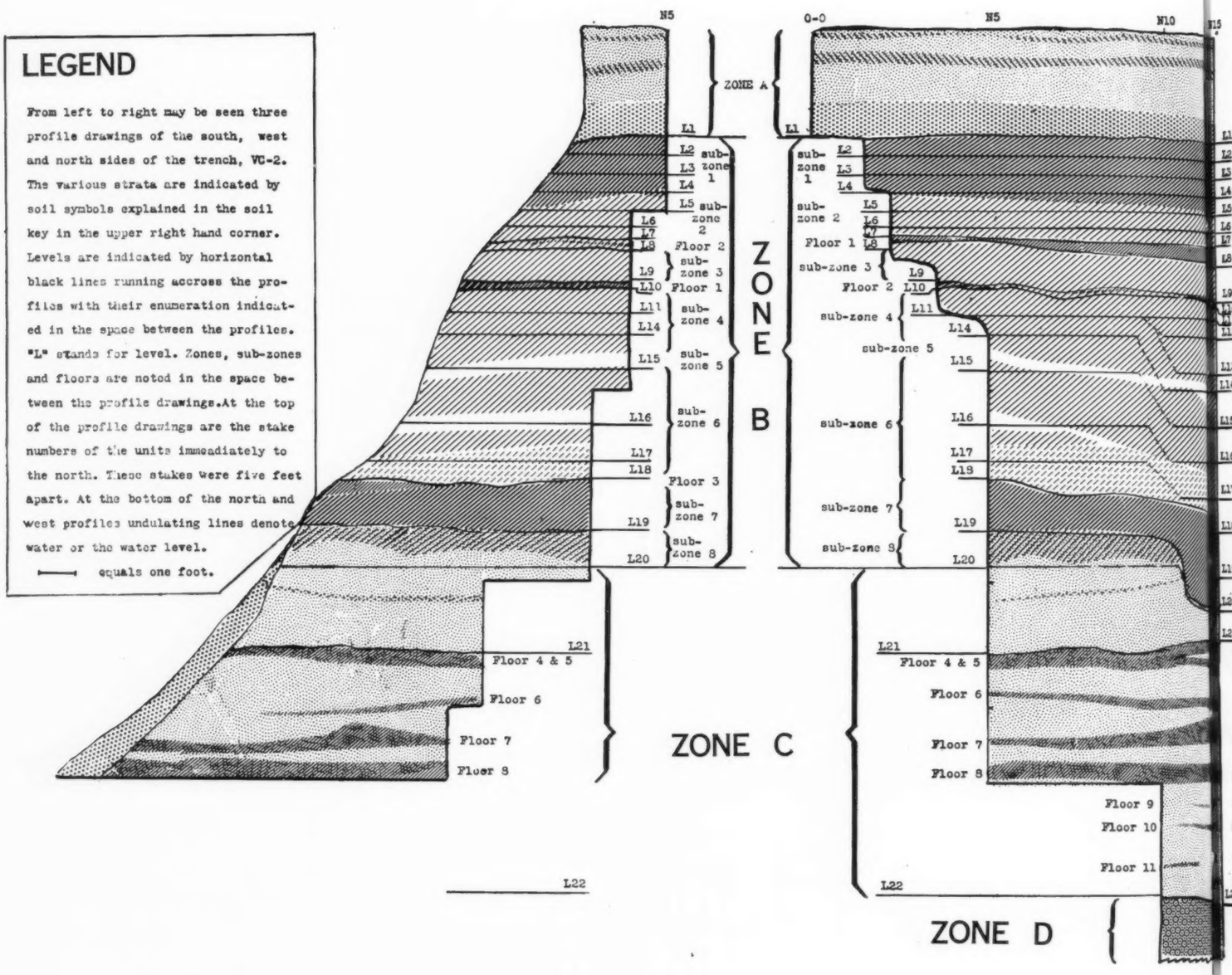
CHART 2—*Continued*

Periods		Chila				Aguilar								Ponce							Pavon		
Levels	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
PROGRESO WHITE TYPE—*Continued*																							
Recurved rim bowls																							
Rim profile 19 of figure 17									1	1	4		3	1	2	3	1	3		4			23
Rim profile 20 of figure 17													1			1				4			6
Rim profile 21 of figure 17					2	1	1			1						1				1			7
Rim profile 22 of figure 17									1											1			2
Plates or dishes																							
Rim profile 32 of figure 17					1		3	1	6	1					1	1	1						15
Rim profile 34 of figure 17							1			1							1						3
Rim profile 35 of figure 17							1		2														3
Rim profile 37 of figure 17									1							1	1						3
Rim profile 38 of figure 17									1														1
Flattened lip bowls																							
Rim profile 42 of figure 17				1	1		3																5
Small mouthed flaring necked olla																							
Rim profile 47 of figure 17								1	1							1	1						4
VESSEL FORM as indicated by basal sherds																							
Convex bottom	7	10	23	10	33	32	61	64	58	56	60	65	76	69	70	56	67	62	58	55	3		
Flat bottom			1			1			8	1		1	2	3	3	5	4	8	8	5	17	19	
APPENDAGES																							
Vessel feet																							
Short, solid and conical		1	1		1		2	5	2	3	1												16
Long, solid and conical		1	1	1	1	3	4	1	3	3													18
Solid effigy feet			1																				1
TOTAL SHERDS OF PROGRESO WHITE	11	21	47	45	145	233	447	465	781	734	345	191	295	145	168	194	144	200	280	318	34	59	5,302
HEAVY PLAIN																							
Plain or scratched variety																							
VESSEL FORM as indicated by rim profile																							
Flaring-sided bowls																							
Rim profile 7 of figure 17									1		2								2				5
Incurved rim bowl																							
Rim profile 15 of figure 17		1									1				2		1			1			6
Ollas																							
Rim profile 53 of figure 17			2	1				2															5
Rim profile 54 of figure 17			4	1	1				2														8
Rim profile 57 of figure 17			2	4		1		2	12	1	1	2	1	1	1				1	1		2	32
Rim profile 58 of figure 17							2			1						1			2	1			7
Rim profile 62 of figure 17							1			1			1	2									5
Rim profile 63 of figure 17		2	2		1		1	1	8									5	1				21
Rim profile 64 of figure 17	4	3	2	1					6													1	17
VESSEL FORM as indicated by basal sherds																							
Flat bottom		1	2	1				1	2			1		1				1		1		1	12
Convex bottom								1?															1?
Plates—Rim profile 32 of figure 17							6	1	3														10

CHART 2—*Continued*

Periods		Chila				Aguilar								Ponce							Pavon		
Levels	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
HEAVY PLAIN—*Continued*																							
APPENDAGES																							
Loop handles			1		1	1				1						1?							4
Double loop handles					1	1																	2
Strap handles		1			1																		2
Appliquéd ridges	1		2	3																			6
Totals of Plain surface variety	11	112	196	128	95	56	127	81	409	196	64	32	48	29	28	20	12	38	79	68	2	35	
Red wash or slip variety																							
VESSEL FORM as inducated by rim profile																							
Ollas																							
Rim profile 51 of figure 17									2											1			3
Rim profile 52 of figure 17								1	3											2			6
Rim profile 53 of figure 17					1			1															2
Rim profile 54 of figure 17									1														1
Rim profile 55 of figure 17					1															1			2
Rim profile 56 of figure 17									1	1											1	4	7
Rim profile 57 of figure 17							4	5	10	6			3			1		1	6	3	2	2	43
Rim profile 59 of figure 17							1	8	3	1	2	1	1		1	1		1	2	4		2	28
Rim profile 61 of figure 17							5	4	3	2	1	1				1			2	4			23
Rim profile 62 of figure 17									1										1				2
Rim profile 63 of figure 17				2		2	3	4	4	7			3	2	4	1		5	20		1		58
Rim profile 64 of figure 17		1			1	1	3		1										1	3			11
Totals of Red surface variety		5	11	32	58	61	142	223	302	237	76	35	43	68	44	25	14	32	79	97	14	36	
TOTAL SHERDS OF HEAVY PLAIN	11	117	207	160	153	117	269	304	711	433	140	67	91	97	72	45	26	70	158	165	16	71	3,490
PONCE BLACK TYPE																							
DECORATION																							
Technique																							
1. Incising							1	4	3	2			2		1	1				2			16
2. Engraving								2	3	1		1			1	1	4	1	1	2			17
Design																							
1. Opposed areas of incised parallel line							1	4	2	2			2		1	1				1			14
2. Wavy bands of incised parallel lines									1											1?			2
3. Single engraved line on outer rim								2	3	1		1			1	1	4	1	1	2			17
VESSEL FORM as indicated by rim profile																							
Outsloping straight-sided bowls																							
Rim profile 1 of figure 17									1	2							1						4
Rim profile 6 of figure 17				2				2		7	1		1										13
Flaring-sided bowl																							
Rim profile 8 of figure 17							5	2	3	5													15
Rim profile 9 of figure 17								2		3						1							6

(*Chart 2 continued on page 262*)


LEGEND
From left to right may be seen three profile drawings of the south, west and north sides of the trench, VC-2. The various strata are indicated by soil symbols explained in the soil key in the upper right hand corner. Levels are indicated by horizontal black lines running accross the profiles with their enumeration indicated in the space between the profiles. "L" stands for level. Zones, sub-zones and floors are noted in the space between the profile drawings. At the top of the profile drawings are the stake numbers of the units immediately to the north. These stakes were five feet apart. At the bottom of the north and west profiles undulating lines denote water or the water level.
equals one foot.
N5
0-0
N5
N10
ZONE A
ZONE B
ZONE C
ZONE D
sub-zone 1
sub-zone 2
sub-zone 3
sub-zone 4
sub-zone 5
sub-zone 6
sub-zone 7
sub-zone 8
Floor 1
Floor 2
Floor 3
Floor 4 & 5
Floor 6
Floor 7
Floor 8
Floor 9
Floor 10
Floor 11
L1
L2
L3
L4
L5
L6
L7
L8
L9
L10
L11
L14
L15
L16
L17
L18
L19
L20
L21
L22

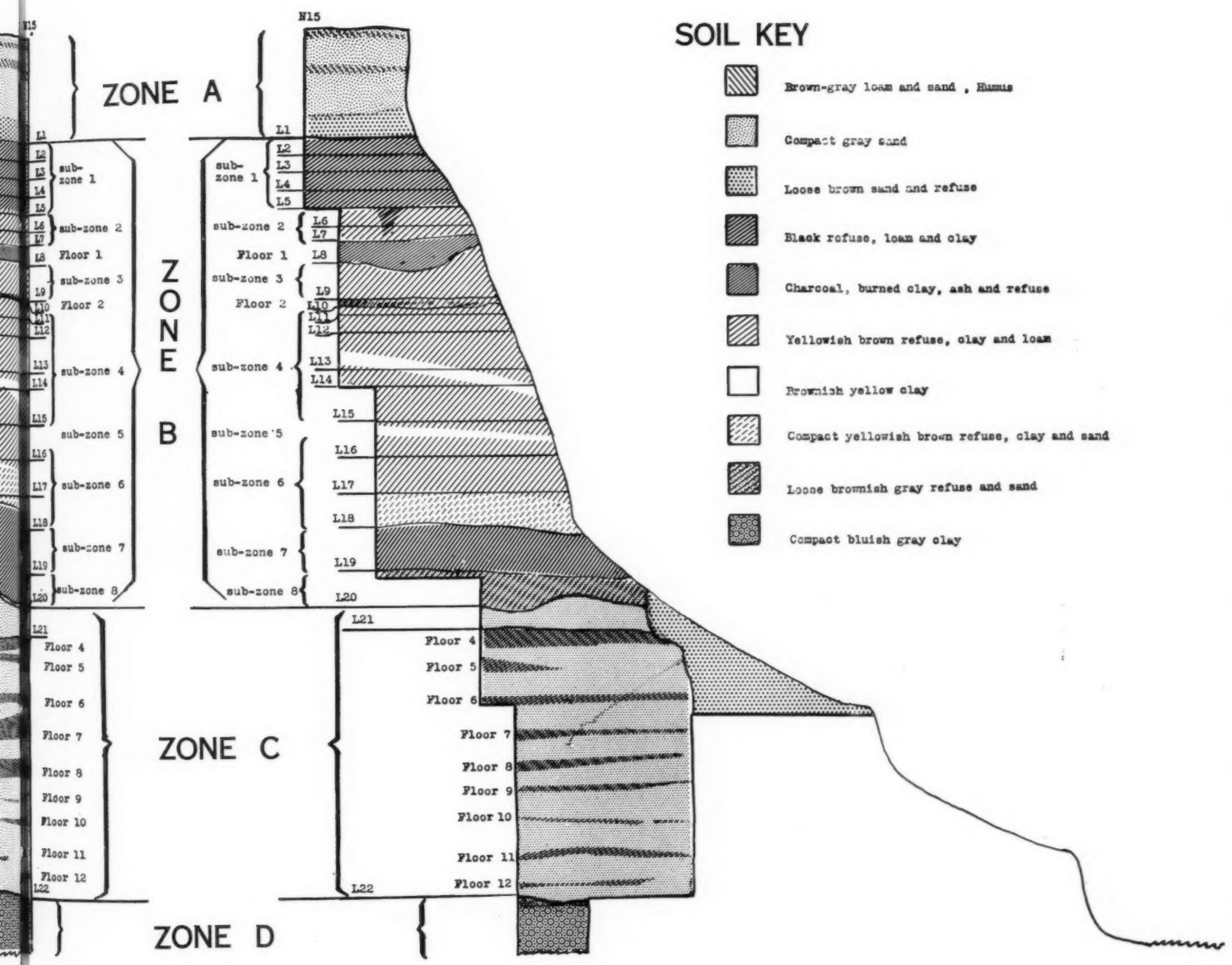

N15
ZONE A
ZONE B
ZONE C
ZONE D
L1
L2
L3
L4
L5
L6
L7
L8
L9
L10
L11
L12
L13
L14
L15
L16
L17
L18
L19
L20
L21
L22
sub-zone 1
sub-zone 2
Floor 1
sub-zone 3
Floor 2
sub-zone 4
sub-zone 5
sub-zone 6
sub-zone 7
sub-zone 8
Floor 4
Floor 5
Floor 6
Floor 7
Floor 8
Floor 9
Floor 10
Floor 11
Floor 12
SOIL KEY
Brown-gray loam and sand , Humus
Compact gray sand
Loose brown sand and refuse
Black refuse, loam and clay
Charcoal, burned clay, ash and refuse
Yellowish brown refuse, clay and loam
Brownish yellow clay
Compact yellowish brown refuse, clay and sand
Loose brownish gray refuse and sand
Compact bluish gray clay

CHART 2—*Continued*

Periods		Chila				Aguilar								Ponce							Pavon		
Levels	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
PONCE BLACK TYPE—*Continued*																							
Flaring-sided bowl with basal flange																							
Rim profile 11 of figure 17							5		2														7
Vertical incurved-sided bowl																							
Rim profile 25 of figure 17									2						1	1	1						5
Hemispherical bowls																							
Rim profile 13 of figure 17								1	1	2		1				1	1	1		2			10
Rim profile 14 of figure 17							6	1	1	1			1	1	4				2	4			21
Incurved rim bowls																							
Rim profile 15 of figure 17									1	1				1	2				1	2			8
Rim profile 16 of figure 17			2					1															3
Rim profile 17 of figure 17						3		2		4	1			1	1	1	4	3	2	2			24
Rim profile 18 of figure 17												1	1						2	1			5
Rim profile 19 of figure 17									1				1										2
Jars																							
Rim profile 28 of figure 17										1													1
Rim profile 29 of figure 17									1	1													2
TOTAL SHERDS OF PONCE BLACK		1?	2	14	32	18	61	112	160	138	51	34	49	25	34	26	25	37	31	22			872
AGUILAR RED TYPE																							
DECORATION																							
Technique																							
1. Linear punctate			4																				4
2. Incising					2	3	28	14	23	5	4	1	3										83
3. Combing							1	2															3
Design																							
sub-type Linear Punch																							
1. Parallel lines of linear punctates			4																				4
undifferentiated as to sub-type																							
2. Wavy bands composed of incised parallel lines with areas of cross-hatching										1	1												2
3. Wavy bands composed of incised parallel lines with areas of parallel lines							1	7	10	1	2												21
4. Incised parallel lines								1	1			1	1										4
5. Incised cross-hatching													2										2
6. Areas of cross-hatching separated by parallel lines					2	3	28	8	12	3	1												57
Total sherds decorated			4		2	3	29	16	23	5	4	1	3										90
VESSEL FORM as indicated by rim profile																							
Outsloping straight-sided bowls																							
Rim profile 1 of figure 17			1					2	3		1				2								9
Rim profile 2 of figure 17									1					1									2
Rim profile 6 of figure 17		2	1					2	2	1			1										9

CHART 2—*Continued*

Periods		Chila				Aguilar							Ponce							Pavon		
Levels	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
AUGILAR RED TYPE—*Continued*																							
Flaring-sided bowls																							
Rim profile 8 of figure 17							1	8	9	4													22
Rim profile 9 of figure 17		1	5					1	1	2	1		1				1						13
Vertical incurved-sided bowl																							
Rim profile 25 of figure 17													2										2
Incurved rim bowl																							
Rim profile 15 of figure 17			1	1		2		1	4	5	4	2											20
Recurved rim bowls																							
Rim profile 19 of figure 17									2							3?							5
Rim profile 21 of figure 17								1				2											3
Rim profile 22 of figure 17									2														2
Rim profile 23 of figure 17						1	16	3	3	1													24
Rim profile 24 of figure 17						1	6	7	2	1													17
APPENDAGES																							
Vessel feet																							
1. Short, solid and conical		1						1	1	1													4
2. Long, solid and conical							1	4	1														5
3. Short, pierced and conical							3																3
TOTAL SHERDS OF AGUILAR RED		6	12	5	8	20	96	78	114	61	30	6	10	4	2	3?	1						456
AGUILAR GRAY TYPE																							
DECORATION																							
Technique																							
1. Combing								1	1	1													3
2. Incising						2		1	2	3	1												9
Design																							
1. Wavy bands composed of incised parallel lines										1													1
2. Incised parallel lines								1	1	1													3
3. Cross-hatching						2		1	2	2	1												8
Total sherds decorated						2		2	3	4	1												12
VESSEL FORM as indicated by rim profile																							
Outsloping straight-sided bowl																							
Rim profile 6 of figure 17								3		4	1												8
Flaring-sided bowl																							
Rim profile 8 of figure 17											1												1
Rim profile 9 of figure 17			1			1	2		2	2	3	1	1										13
Vertical incurved-sided bowl																							
Rim profile 25 of figure 17			1	1	2																		4
Hemispherical bowl																							
Rim profile 13 of figure 17			3				2	2	3														10

CHART 2—*Continued*

Periods		Chila				Aguilar								Ponce							Pavon		
Levels	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
AUGILAR GRAY TYPE—*Continued*																							
Incurved rim bowl																							
Rim profile 16 of figure 17		1			4	2	3		2														12
Recurved rim bowl																							
Rim profile 23 of figure 17					2			1	19	3													25
APPENDAGES																							
Vessel feet																							
1. Short, solid and conical									1	1													2
2. Short, hollow and conical			1					1	2	1													5
TOTAL SHERDS OF AGUILAR GRAY		15	34	15	43	32	67	68	147	75	32	13	15										556
CHILA WHITE TYPE																							
DECORATION																							
Technique																							
1. Linear punctate	4	7	13	12	11	4	3																54
2. Linear punctate and incising		1		1	2	1	1																6
3. Incising		2	2	5	4	3	3																19
Design																							
1. Parallel lines of linear punctates	4	7	13	12	11	4	3																54
2. Wavy bands composed of parallel incised lines with linear punctates		1		1	2	1	1																6
3. Cross-hatching		2	2	4	4	2	3																17
4. Incised parallel lines				1		1																	2
Total sherds decorated	4	10	15	18	17	8	7																79
VESSEL FORM as indicated by rim profile																							
Outsloping straight-sided bowl																							
Rim profile 1 of figure 17			2	1	1	1																	5
Rim profile 2 of figure 17		1	5	1	1																		8
Rim profile 3 of figure 17		1	2	1	3	1	2																10
Flaring-sided bowl																							
Rim profile 8 of figure 17					4	1	1																6
Rim profile 9 of figure 17			1																				1
Flaring-sided bowl with basal ridge																							
Rim profile 10 of figure 17				1																			1
Rim profile 11 of figure 17		1																					1
Vertical incurved-sided bowl																							
Rim profile 12 of figure 17		3	2	1	2																		8
Rim profile 26 of figure 17			4																				4
Hemispherical bowl																							
Rim profile 14 of figure 17					1	3	3																7

CHART 2—*Continued*

Periods		Chila				Aguilar								Ponce							Pavon		
Levels	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
CHILA WHITE TYPE—*Continued*																							
Incurved rim bowl																							
Rim profile 17 of figure 17		2			1																		3
Plates or dishes																							
Rim profile 36 of figure 17					1																		1
Rim profile 38 of figure 17		1	2																				3
APPENDAGES																							
Vessel feet																							
Short, solid and conical	1	1	1	1	1																		5
Long, solid and conical	1		1	2	1																		5
Short, hollow and conical			1																				1
Effigy foot				1?																			1
Strap handle			1																				1
TOTAL SHERDS OF CHILA WHITE	10	45	64	71	69	43	39																341
FINER PLAIN WARE																							
VESSEL FORM as indicated by rim profile																							
Flaring-sided bowl with basal flange																							
Rim profile 11 of figure 17	1			1																			2
Hemispherical bowl																							
Rim profile 14 of figure 17		2	2																				4
TOTAL SHERDS OF FINER PLAINWARE	2	6	12	16	2																		38
EL PRISCO BLACK?, FRESCO DECORATED	1																						1
EL PRISCO BLACK	3																						3
ZAQUIL RED	10																						10
LAS FLORES RED ON BUFF	3																						3
LAS FLORES RELIEF	1																						1
HUASTECA BLACK ON WHITE	1																						1
SPANISH GLAZE WARE	1																						1
ABERRANT OR UNIDENTIFIED	208	171	93	56	57	12	7	9	16	53	6	3	2	2	8	9	47	41	2	2			807
GRAND TOTAL OF SHERDS																							13,573

Continuation of his numerical system is, of course, illogical, and the establishment of a new numerical nomenclature that would include both his periods and mine faces the difficulty that in the future further earlier periods may be found and that students in the field may find themselves somewhat confused by a shifting period designation. Therefore, I propose that periods in this area be given place or proper names. This will not only allow for addition of new (earlier) periods but also may be of great assistance in the naming of periods in sequences from the same area that show a great deal of individual variation.[18] It is thereby proposed that the following changes be made: that Ekholm's Period VI be called the Panuco Period; Period V, the Las Flores Period; Period IV, the Zaquil Period; Period III, the Pithayas Period; Period II, the El Prisco Period; Period I, the Chila Period; and that my three earlier periods be called (from late to early) the Aguilar, Ponce, and Pavon Periods.

PAVON PERIOD

This period is represented only in Zone C in VC-2, levels 21 and 22. The material from this period comes from the nine thin occupation levels in the hard cemented sands. From the evidence at the site it appears that the occupations were of short duration and were by relatively small numbers of people.

The period is characterized by the dominance of Progreso Metallic ware, a very limited number of vessel forms (5) with surface finish of a red or white monochrome wash. The only decoration is on Progreso White and it has patterns composed of overlapping cylindrical punches on the interior bottoms of bowls. Negative traits such as the absence of vessel feet, handles, incised or painted decorations, spindle whorls, ear ornaments, wattle and daub, obsidian chips, and the rarity of figurines are equally distinctive. However, the period is poorly defined by this excavation, only 690 sherds being found. Future work should start with this horizon and continue back in time.

Progreso Metallic

The temper is very small, pin-point size flakes of caliche and quartz. They are in abundant amounts and give the pink paste a white speckled appearance. The consistency of the paste is very compact. Sherd surfaces under the paint have a slightly sandy feel about like that of emery cloth. Firing appears to have been even as the paste is uniform in color. The majority of sherds have a salmon pink color, though a very few approach a brownish gray. Firing may have been by an oxidizing process. Hardness is just a little less than 4.5 and the sherds when dropped are brittle and give off a metallic ring. An examination of the inner surfaces of sherds shows undulations that might be the result of the smoothing of coils. Examination of a few cross-sections under a microscope gave no further clue to the method of manufacture. Sherds vary between $\frac{1}{8}$ and $\frac{1}{4}$ inch in thickness.

Exterior clay surfaces under the wash are usually pinkish and well smoothed, while interior surfaces are undulating and carelessly smoothed. Exterior surfaces and neck interiors have a wash of chalky white paint which was smoothly applied but not polished. Many sherds show evidence of this paint being worn off.

Decoration is absent.

All 25 rim sherds from Zone C come from the same shaped vessel type though apparently they belong to at least 12 different vessels. The typical vessel is a small mouthed olla with a flaring rim and a pointed lip (fig. 12, no. 11 & 12). The short cylindrical straight or slightly flaring neck is at right angles or at an acute angle to an almost horizontal shoulder that rounds into a tapering or globular body. Bottoms are small, about the same diameter as the mouth, and flattened.

With two exceptions from later levels, specimens of this pottery type consistently have identical paste, surface finish, and vessel form. There appear to be no changes within this type through time.

Temporally this type is characteristic of the Pavon Period though it does appear to be decreasing in the late stage of the period, level 21. It carries on into the Ponce Period as a minority type and gradually fades out in the Aguilar Period.

It appears unrelated to any types I have seen from Mexico, although it seems to be similar to an early type Shook verbally described as coming from his earliest period, Las Charcas, under Miraflores at Kaminaljuyu near Guatemala City. Black ware ollas from the Mamom period of Uaxactun are similar in shape.

Progreso White

This type has temper similar to that of Progreso Metallic, being small white particles of quartz and caliche in abundant amounts. However, the consistency is somewhat poorer than Progreso Metallic; sherds are slightly porous and occasionally there are small laminations. Sherds have a definite sandy feel. The firing, by an oxidizing process, appears to be even but cross-sections of sherds show the interior to be gray or grayish black while the portions nearer the surface are either light gray or salmon pink. Hardness is about 3.5. Sherds vary between one-quarter and five-eighths of an inch in thickness, averaging about $\frac{3}{8}$ inch thick.

The clay surface of the sherds is smooth and covered by a thin wash of chalk white chalky-feeling paint. During this early period the paint wash was quite thin but appears to become thicker and more durable in later times.

Decoration occurs on the interior bottoms of vessels. Only about half of the pieces of the interior bottom

[18] Such as the Tancol complex.

are decorated (26 sherds). The decoration is made by impressing a cylinder (hollow reed or bird bone?) between ¼ and ⅛ inch in diameter into the wet clay. These impressions usually overlap one another to form lines or rows. Around the junction of the bottom and sides there is usually a single line of overlapping punches forming a circle around the edge of the bottom of the bowl. Inside this circular line there are opposed triangles or squares filled with parallel lines of overlapping punches. Each opposed triangle or square is separated from the others by an undecorated area (fig. 12, no. 10) or by an undecorated area followed by one or two straight lines of overlapping punches and then another undecorated area (fig. 12, no. 8–9). One sherd is decorated by a spiral line of overlapping punches radiating out from the center of the bottom of the bowl (fig. 12, no. 7). This punched decoration on Progreso White occurs mainly in Zone C, the Pavon Period, though a few sherds sporadically appear in the Ponce Period and the lower levels of the Aguilar Period. It is considered a sub-type of Progreso White (i.e., Progreso White, Cylindrical Punctate) and definitely represents the first of a series of changes of decoration that occur within the type. Two sherds from level 21, found only a few inches from the pit extending down from sub-zone 7 of Zone B, have incised parallel lines on them. These two sherds either represent the first of a series of changes in decorative technique or were intrusive from the Zone B pit.

The dominant form is a flaring-sided, flat-bottomed bowl. Rims are either straight walled, outsloping and tapering, straight outsloping and thickening toward the lip (fig. 17, no. 1–6), or out-flaring and tapering toward the lip (fig. 17, no. 7–9). Bottoms of the bowls are flat. No appendages appear. Two sherds of an incurved rim bowl and one sherd of a flaring-sided bowl with a slightly convex bottom were found in level 21 and foreshadow changes in vessel forms in the Ponce Period.

Temporally, this type is significant in that it extends through all of the three earliest periods of this region and dies out in the early stages of the Chila Period. The temporal significance of the sub-type Progreso White, Cylindrical Punctate, is that it appears in significant amounts only in the Pavon Period.

As far as relationships are concerned, the type is obviously ancestral to the later variants of Progreso White and to Chila White. In fact, in the upper levels of this excavation and in VC-1 there is a gradual fading into Chila White as the paste becomes laminated and the temper larger, coarser and more granular. The sherds of this type in the upper levels of VC-2 are most arbitrarily separated from Chila White, particularly since the slip, shape, feet and type of decoration are also the same. The decoration of this early variant of Progreso White (i.e., Progreso White, Cylindrical Punctate) cannot at present be duplicated in any Middle American ceramic complex. In fact, that type of decoration of overlapping circular punctates is out of the Middle American tradition and would be much more at home in the eastern United States. The outsloping bowl with a flat bottom and no feet has general similarities with forms in Mamom at Uaxactun, Lower Tres Zapotes, Monte Alban I, Yojoa Monochrome, Playa de los Muertos, and Miraflores.

Heavy Buff

The large grit (between 1 and 3 mm. in diameter) or clay grit temper is abundant. The consistency of the paste is extremely poor, being crumbly and granular. The firing is uneven and very poor. The exterior of sherds is usually brownish buff though occasionally areas are blackened. However, a few of the sherds do not appear to have been fired at all, as they completely dissolved in water. With some of the sherds the interiors dissolved in water but the surfaces did not. It would appear that many vessels of this type were only briefly exposed to a low firing temperature. Hardness is about two or less. Thickness varies between ½ and 1¼ inch.

Exterior surfaces have been smoothed while wet or with wet objects. Interiors are scraped and poorly smoothed. Decoration is absent. The one rim sherd unearthed is outflaring with a flattened lip. Evidently the only vessel form is that of the outflaring wide mouth olla with a globular body and probably a flat bottom.

This pottery is also unique for Meso-America in that it is without doubt the most poorly made pottery so far discovered in that area. It is rather hard to conceive that the peoples making the well-fired Progreso Metallic deigned to make this crude ware. The type is closely related to Heavy Plain and occurs as a minority ware throughout the first three periods.

Heavy Plain

The paste is very granular and has abundant coarse quartz-grit temper. The firing is even and in cross-section the inside areas are black or gray with a gradual blending into the brown or brownish orange surfaces. Hardness is between 2.5 and 3. In thickness the sherds range between one-half and one inch.

Surfaces are poorly smoothed and slightly over half the sherds have a thin wash of red paint. Decoration is absent.

Rim sherds are outflaring and contract into a rounded slightly overhanging lip. Bodies are globular. The two extant sections of basal portions show bottoms to be flat. The vessel form appears to be a flaring rimmed small mouthed olla with flattened bottom.

This type of utilitarian ware runs from the earliest period so far discovered to historic times. There are minor changes in lip and rim form in the earlier three periods; these, coupled with later developments of brushing appliqué decoration and the use of handles, appear to represent changes within the type. Some of

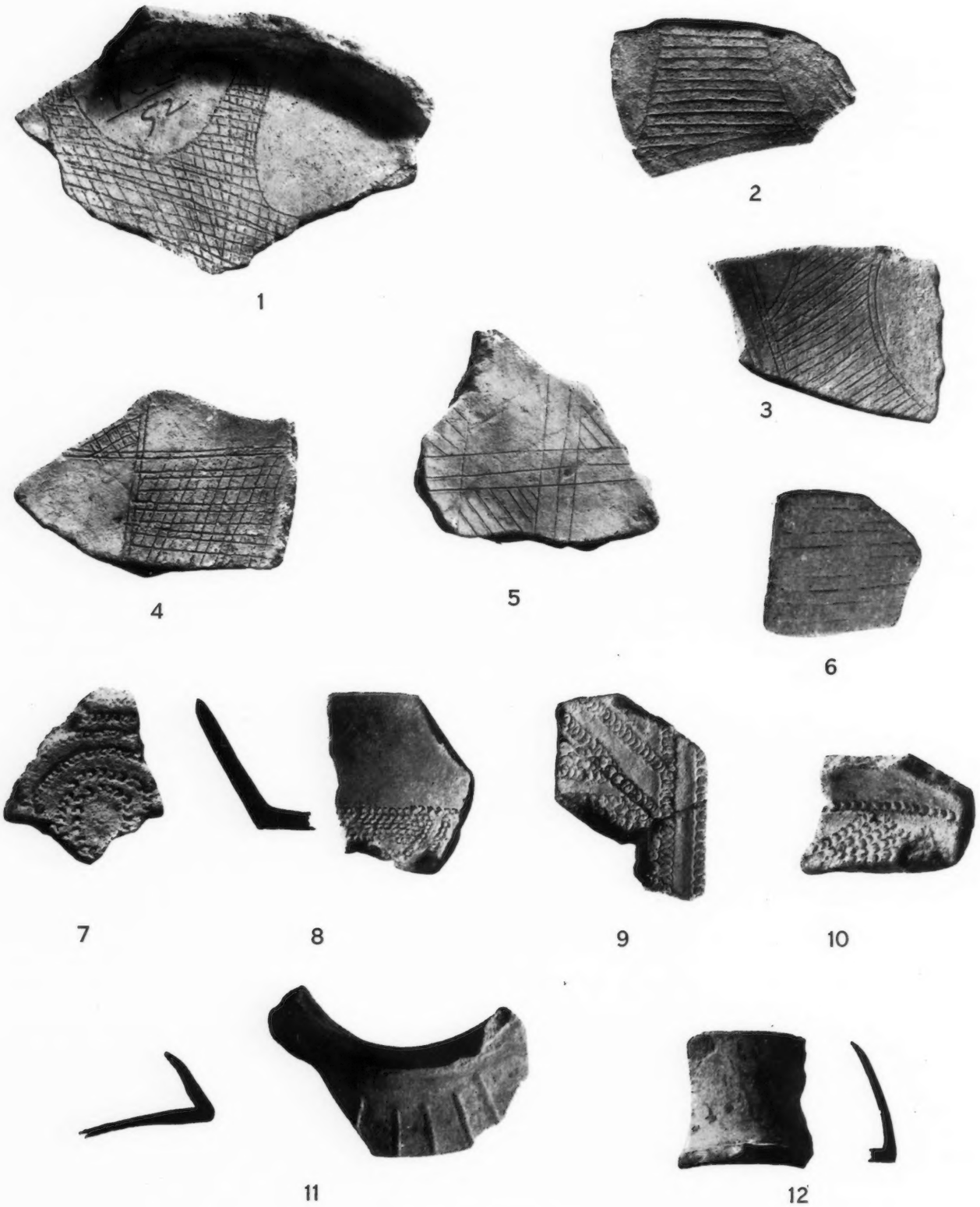


FIG. 12 (½ natural size).

these early red washed sherds from VC-2 are very similar to red slipped daub ware from the Mamom phase of Uaxactun.

Conclusions

The Pavon Period is stratigraphically the oldest so far found in the Huasteca. It is not well represented in the 1948 excavations. Though the Progreso Metallic type is well made and far from primitive in construction, this horizon does have certain features that mark it as early and near the beginning of the development of the more sophisticated cultures of the Huasteca. The following traits mark this horizon as being definitely crude and more primitive than other horizons so far unearthed in Mexico: the limited use of monochrome (red or white) surface finish; decorations by overlapping cylindrical punchings only (on a very small proportion of the sherds); the general absence of incising or engraving, painting or grooving; the limited number of vessel forms, the major kinds being flat-bottom flaring-sided bowls, small mouthed flaring rim ollas, flat-bottomed pear- or globular-bodied pots with flaring necks at an acute angle to the shoulder; the extremely poor paste of about one-third of the pottery; and the complete lack of appendages such as tripod feet or handles. It would appear either that this period at Panuco represents part of an early generalized stage of development that occurs throughout Middle America or that the Huasteca is an area of cultural lag and the Pavon Period represents an early crude adoption of ceramic concepts from centers of Formative cultures that had already gone through a developmental period.

FIG. 12. National Museum of Canada Neg. No. M 215.

1. Progreso White—sub-type Hub and Spoke—hub and spoke filled with crosshatching from square N5, level 20, Ponce Period.
2. Progreso White—sub-type Hub and Spoke—hub and spoke filled with parallel lines, Ponce Period.
3. Progreso White—sub-type Hub and Spoke—hub and spoke filled with parallel lines, Ponce Period.
4. Progreso White—sub-type Hub and Spoke—diagonally opposite squares filled with crosshatching from Ponce Period.
5. Progreso White—sub-type Hub and Spoke—diagonally opposite squares filled with parallel lines from Ponce Period.
6. Progreso White, undifferentiated with straight parallel lines.
7. Progreso White—sub-type Cylindrical Punctate—spiral design made composed of overlapping cylindrical punctates from Pavon Period.
8. Progreso White—sub-type Cylindrical Punctate—areas filled overlapping cylindrical punctates separated from other areas by undecorated areas and one to two straight lines of overlapping cylindrical from Pavon Period.
9. Progreso White—sub-type Cylindrical Punctate—variety of decoration same as above.
10. Progreso White—sub-type Cylindrical Punctate—areas filled with overlapping cylindrical punctates in opposition to undecorated areas from Pavon Period.
11. Late variant of Progreso Metallic with appliquéd ridge on shoulder-rim cross-section indicated—from Ponce Period.
12. Progreso Metallic rim sherd from Pavon Period.

PONCE PERIOD

There evidently is a time gap between the Pavon and Ponce Periods. This is apparent not only from the influx of new ceramic concepts in the Ponce Period but from the erosional disconformity between Zones B and C. The Ponce Period includes levels 14 through 20, about the lower third of Zone B. The exact top of the period in terms of the stratigraphic cut is, of course, arbitrary and is predicated upon the introduction of new ceramic types and concepts. Typologically, the period seems to have come to a halt during the early dumping of refuse to form sub-zone 4, not too long after the deposition of the clay alluvium called sub-zone 5. Ceramically, the period is fairly well represented with a sample of 2,803 sherds.

Progreso Metallic

As far as can be determined, the paste and surface finish continue to be the same as in the Pavon Period. Decoration is absent except for one sherd that has a series of small appliqué ridges on the shoulder radiating from the neck (see fig. 12, no. 11). Of the seven rims and necks found, six are from vessels of the same shape as in the previous period. One sherd, however, appears to be from a hemispherical bowl. The two basal portions found are flat and slightly concave.

Generally speaking, there are no changes within the type. In terms of frequency, it has dropped from its dominance in the Pavon Period to a minority ware ranging between 8 and 17 per cent of the sherds found at any of the levels of the period.

Progreso White

The paste and surface finish continue the same as in the previous period; however, there appear to be a number of changes within the type.

One of the greatest of these changes is in decoration. Out of 683 interior bottom pieces about half were undecorated, only 14 had the punctuate decoration so characteristic of the Pavon Period (Progreso White, Cylindrical Punctate), while 282 had the newly introduced technique of incising. The introduction of incised decoration on interior bottoms represents a major change within the type. The incising is relatively fine or narrow, though sloppily executed. The fineness of the incising indicates that its purpose is purely decorative; thus the bowls are not true molcajetes though they resemble such.

Since the sherds were small in size, the total decorative motifs were difficult to reconstruct. Generally speaking, the basic decorative elements were cross-hatched and parallel lines. Stratigraphically, the cross-hatched lines are dominant in the earlier levels of the period while the parallel lines are dominant in the late part of the period. All decorations are on interior bottoms of bowls except for five sherds with a single

engraved line on the outer rim. These five sherds may well represent Ponce Black vessels fired in an oxidizing atmosphere.

As far as I was able to determine, there were at least nine types of design. In the early part of the period were found sherds with a checkerboard design, the diagonally opposite sets of squares bearing cross-hatched lines while the others were blank (fig. 12, no. 4). Very similar to this motif was a checkerboard design with one set of alternating squares filled with parallel lines while the others were blank (fig. 12, no. 5). This was a rare motif found on only a few sherds (8) in the early part of the period (levels 17–20). One is tempted to conjecture that this motif was derived from the alternating opposed triangles or squares filled with parallel lines of overlapping cylindrical punches found in the previous period. A very common design in the early part of the period and continuing into the next period in lesser amounts is like a wagon wheel with a large hub and short wide spokes and with a single incised line representing the rim of the wheel. The areas in the hub and in the spokes are filled with cross-hatched lines, while the area between the spokes is undecorated. There are from four to ten spokes. In the tables this is referred to as "hub and spokes filled with cross-hatching" (see fig. 12, no. 1). Similar to this motif is one in which the hub and spoke areas are filled with parallel lines (fig. 12, no. 2 & 3). This is dominant in the later part of the Ponce Period but carries on into the Chila Period. The four types of decoration (above) compose the sub-type, Progreso White, Hub and Spoke Design. There also appear in this period sherds showing alternate areas of cross-hatching and parallel lines (see fig. 14, no. 10), areas of cross-hatching separated by two to eight parallel lines (see fig. 14, no. 12), and sherds with opposed areas filled with parallel lines, the parallel lines of one area being roughly at right angles to the parallel lines of the next area (see fig. 13, no. 14 or fig. 14, no. 11). (The small size of the sherds prevents the determination of the shape and size of the areas.) These last three motifs are more common near the end of the Period and in the Aguilar period and compose the sub-type Progreso White, Opposed Areas. In this period a few of the parallel lines appear to be made by a toothed object dragged over the wet clay. Some bottoms appear to be covered only by cross-hatching while others only have straight parallel lines. Near the end of the period a few of the parallel lines are curved, not straight. These do not appear to have any special temporal significance and the twenty sherds of this region are included in the general Progreso White type (undifferentiated as to sub-type).

In terms of vessel form, the straight outsloping and flaring-sided bowls with flat bottoms of the Pavon Period continue, but many new vessel forms appear. Straight outsloping and flaring-sided bowls with a slightly convex base appear to be very numerous, but by the end of the period flaring-sided bowls with definite exteriorly convex bottoms (composite silhouette bowls) are on the increase. Recurved rim bowls with convex bottoms occur in this period and seem to foreshadow the dominant shape that appears on the later Aguilar Red type. Incurved rim bowls, vertical concave-sided bowls, hemispherical bowls, flaring-sided bowls with a basal ridge, small ollas and dishes also occur. A few crude pieces of effigy ware occur. The effigy bowls are usually incurved rim bowls with the ears (and perhaps lips and nose) modelled but features like hair, eyes, and mouth shown by incising. They are often small in size.

Vessel appendages, such as spouts, handles, or feet, are absent.

In terms of relationship, the various sub-types of Progreso White are obviously derived from the variants of the type in the earlier period and are ancestral to Chila White of a later period. Some of the vessel forms of the type have wider implications that will be described later.

Ponce Black

The temper is minute specks of white caliche and, rarely, fine sand. The paste is not so compact as that of Chila White, being slightly porous. The paste is usually black and rarely is mousy gray in color. The same color usually persists from surface to surface with no lightening of color near the surfaces. However, on the usually black exterior surfaces there are occasionally mottled fine cloudlike patches of grayish white. The grayish white patches occur usually on the outer sides and the bottom. Microscopic study of cross-sections reveals these patches to be made by firing, as they blend imperceptibly into the blackened areas. The pottery appears to have been fired in a reducing atmosphere, with the main portion of the clay reducing to a black color, owing to its chemical constituents. However, either the chemical makeup of a portion of the surface was such that it fired white even though it was in the same reducing atmosphere, or, at an auspicious moment, some portion of the vessel was exposed briefly to an oxidizing atmosphere. This process suggests a considerable specialized knowledge of the chemistry and firing of clays.

The hardness of Ponce Black averages about 4 with the black areas noticeably harder than the white areas.

Sherds vary in thickness between ¼ and ¾ inch in thickness.

Surfaces of the vessels are usually polished and there is a tendency for the blackened interiors to be better polished than the exteriors. As stated before, exterior portions of the vessels sometimes have white or gray areas.

Decoration occurs on only 14 sherds. Five sherds bear incising on the flat interior bottoms. Four of these sherds are small and show only a few parallel lines on them, while the fifth is very large, displaying

parallel lines inside triangles (fig. 13, no. 14). The decorations on the other nine sherds occur on the exterior of the rims of bowls and are a single engraved line (post-firing incising), encircling the vessel just below the lip on the outer rim (fig. 13, no. 9).

Shapes show some variations stratigraphically; these represent changes within the type. During the early part of the Ponce Period, vessels appear to be mainly hemispherical, incurved-rim bowls or incurved-rim bowls with a slight short straightening of the lip. In the following period, a series of new vessel forms appear for this type and the original vessel forms are in the minority. This influx of new forms has its meager beginnings in the late part of the Ponce Period with the appearance of one rim sherd of a flaring sided bowl, and one sherd of a bowl with straight, outsloping sides. Bottoms appear to be flat or almost so.

As regards relationships, there are no predecessors for this type in our area. The type is mainly confined to the Ponce Period, though it continues on into the next period. It may be involved in the ancestry of El Prisco Black of the El Prisco Period (Ekholm's Period II).[19] Outside of the area Ponce Black appears to be definitely related to the Black Ware of Lower Tres Zapotes. The minute particles of caliche as temper, the paste, the use of a reducing atmosphere, turning the insides and most of surface black, in conjunction with patches of a grayish white, the black polish, the decoration consisting of an engraved line on the outer rim-lip junction, the vessel forms of hemispherical (or "open curved sided")[20] bowls, incurved rim bowls, flaring-sided bowls with flat bottoms, and the lack of appendages such as feet or handles are sufficient significant similarities to indicate that the two are definitely related. On the basis of the relationship of the two types, one can provisionally equate the Lower Tres Zapotes Period of southern Vera Cruz or a portion of it with the Ponce Period of Panuco.[21] The few sherds of black ware from the Mamom phase of Uaxactun that I examined appear to be very similar as to paste, firing, and decoration, though vessel forms are somewhat different. Thus it would seem that a Black ware at early times extended from the Peten to Tampico, indicative of a significant cultural connection throughout this area.

Heavy Buff

The paste and surface finish remain the same as in the previous period. Changes within the type occur, however, in that five new vessel forms appear. The most common of these forms is a dish (or pot cover?) which has a flat bottom and a short widely flaring side with a pointed lip. The interiors of these dishes are concave. The next most common rim class consists of outcurving flared rims that contract toward the lip. These may be part of flaring-sided bowls or wide mouth ollas. Vertical-sided jars with either a short sharply outflaring rim or with a straight exterior surface and expanded lips that over-hang interiorly are found. One rim of a composite silhouette dish was discovered. As shall be noted later, one small fragment of a cylindrical object of Heavy Buff paste was uncovered. This cylindrical object might be part of an unsupported spout. If such is true, this object suggests a further link between Lower Tres Zapotes, Mamom, and Ponce.

Heavy Plain

Paste, surface finish, and decoration are the same as in the previous period. The older vessel form, small mouthed ollas with outflaring rims contracting into round or pointed lips, continues, but new minor variants with slightly different rim treatment appear. Small mouthed ollas with thickened rounded lips and slightly outflaring necks appear for the first time, and in later times they become the most common form. Ollas with vertical outflaring rims at an acute angle to the neck and bowls with straight outsloping rims occur. A few sherds without red paint are from hemispherical bowls and outflaring-rimmed flat bottom bowls.

Two rim sherds of a vessel form unknown to other ceramic assemblages occur. These sherds seem to be from vessels with a small mouth (about 2 to 3 inches in diameter) whose rims slope toward the mouth like a truncated cone. These insloping rims are separated from the short vertical necks by a ridge of clay. The necks appear to be attached to globular bodies with flat bottoms (see fig. 13, no. 1 & 2).

On some of the red painted sherds, the paint covers the exterior and extends about an inch over the lip down onto the interior neck. Many of these sherds are flaring-necked ollas with a contracting or pointed lip. These features, coupled with their dark granular coarse paste, make them appear extremely similar to some of the daub ware jars I have seen from Uaxactun. All the features of this trait are not overly complex and accidental duplication of the features by other groups is of course possible. However, I cannot help but feel that these sherds from the two areas are somehow related. Certainly one is justified in suggesting that both may be survivals of early red painted utilitarian ware that was common to both Mamom of Uaxactun and the Ponce Period of Panuco. Ekholm has previously noted R. E. Smith's opinion that some of the red painted ware of Heavy Plain of the Chila Period bears a certain resemblance to daub ware.[22] The Chila Period sherds of Heavy Plain, red variety, which I have studied have considerably less resemblance than these earlier Ponce Period varieties.

[19] G. Ekholm, 1944.

[20] Drucker 1943*a*.

[21] Incidentally, in examining the sherds from the two areas I would have resorted them incorrectly had I not consulted the catalogue numbers.

[22] G. Ekholm, 1944: 424–425.

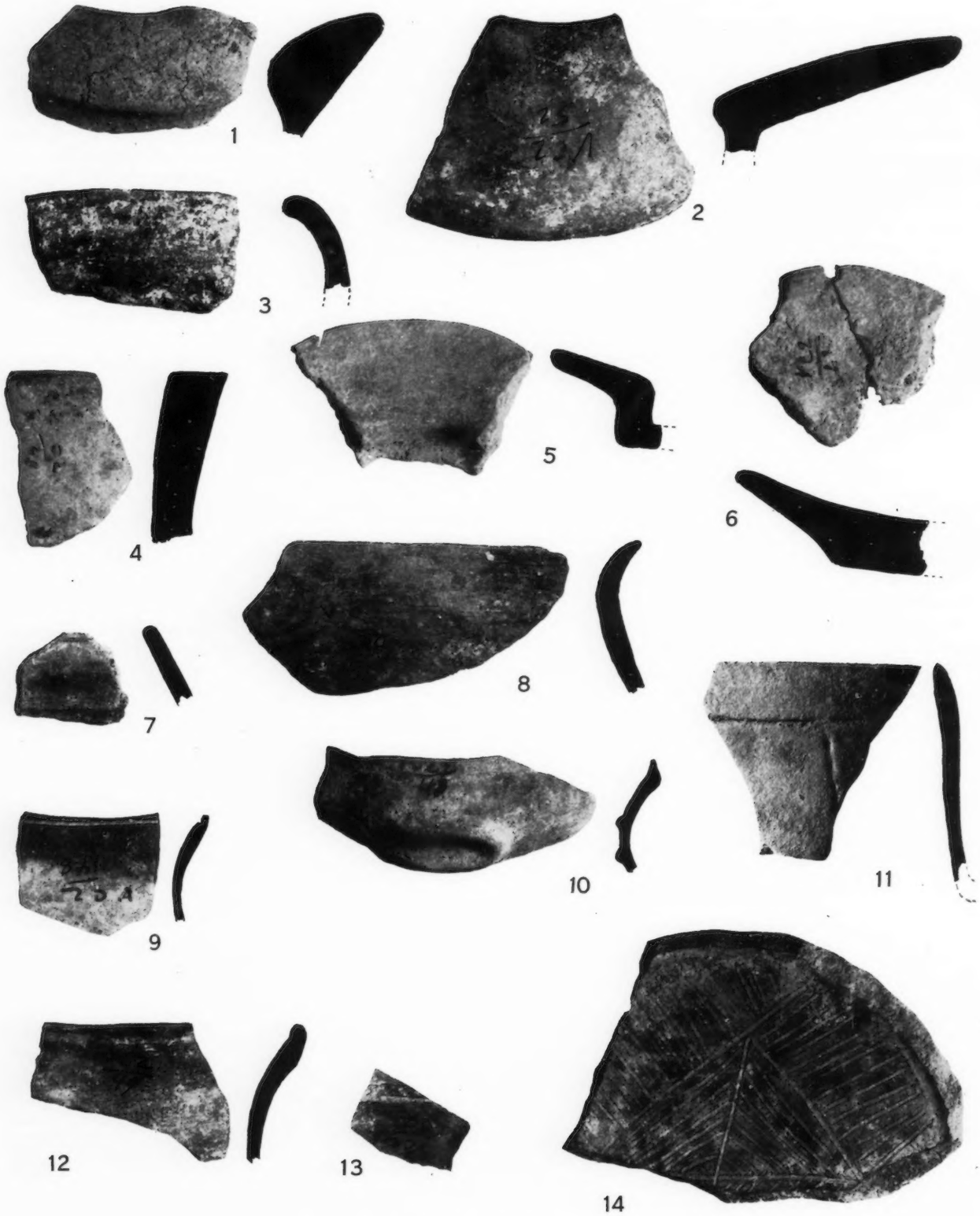


FIG. 13 (½ natural size).

Aberrant Sherds

Ten sherds of what may be Aguilar Red were found in the Ponce levels. Three of these sherds from level 16 are most hesitatingly classified as Aguilar Red. All three are rim sherds of recurved rim bowls. The paint on the vessels has an orangish red color and the paint is thickly applied and polished. The paste is somewhat granular. These are probably trade sherds but I have yet to discern their provenance. The nearest thing I have seen to them are some of the recurved rim, flat bottomed red bowls from Uaxactun. However, the similarity is not great.

One of the other sherds has a gray, granular, hard paste. On the lip and on the side there seems to be either brownish-black painted bands or the remnants of a totally brownish black painted surface. The sherd is quite unlike any other found in the excavation (see fig. 13, no. 7). I know of no similar sherds from other areas.

Conclusions

The Ponce Period, having all of the pottery types common to the Pavon Period, is obviously derived from it. However, the number of new variations within the older types, new sub-types, the radical decrease of Progreso Metallic and the rapid increase of Progreso White, as well as the addition of the pottery type Ponce Black, justify the establishment of a new period. In fact, the changes are so numerous in both the technique and varieties of design found in Progreso White, and in the vessel forms in all the types, that I believe there is some time gap between the two periods. Certainly the stylistically impoverished Pavon Period had been profoundly stimulated artistically.

The great resemblance of Ponce Black to the black ware of Lower Tres Zapotes and Mamom of Uaxactun implies a temporal and cultural relationship that justifies the tentative equation of the three horizons. The monochrome wares (red, white, and black), incised or engraved decorations, effigy faces on vessel necks, small spherical effigy jars, the correspondences between the majority of vessel forms, as well as the negative trait of absence of feet on vessels, suggest a relationship between Mamom, Lower Tres Zapotes, and Ponce. Of these various similarities between the three cultural phases, the vessel form resemblances are the most striking. In the Ponce Period at Panuco, Lower Tres Zapotes of southern Vera Cruz, and the Mamom Period of Uaxactun, the preponderant majority of rim sherds belongs to the following vessel forms: straight outsloping-sided bowls with a flat base; flaring-sided bowls with a flat base; straight outsloping-sided bowls with a convex base (silhouette bowls); small mouthed ollas with outflaring rim, pointed lip, globular body, and a flat base; incurved-rim bowls; hemispherical bowls; outsloping flat-bottomed dishes, and, possibly, unbridged spouted vessels. Furthermore the red painted daub ware of Mamom is very similar to some of the Heavy Plain, red variety, sherds from the Ponce Period of Panuco.

The kinship indicated by these features or traits seems to connect the culture of the lowland Maya area to that of the southern and northern Vera Cruz coast. (As will be indicated later, Ponce and Mamom figurines are very similar.) Furthermore, these features contrast radically with the ceramics of the early cultures of the Valley of Mexico, another cultural tradition that, by its influence, contacts, and the actual movements of its peoples, may have been responsible for the Maya-Huastec separation at some later date.

FIG. 13. National Museum of Canada Neg. No. M 212.

1. Heavy Plain, red variety, rim sherd.
2. Heavy Plain, red variety, rim sherd.
3. Heavy Plain, red variety, typical rim sherd.
4. Heavy Buff rim sherd.
5. Heavy Plain, plain variety, plate.
6. Heavy Buff plate.
7. Aberrant rim sherd with a painted black line on interior gray surface.
8. Heavy Plain, red variety, rim sherd of a bowl.
9. Ponce Black rim sherd show exterior engraved line below the lip.
10. Progreso White rim sherd of small effigy jar showing a modelled human ear.
11. Aberrant sherds of a jar bearing incised decoration on the exterior.
12. Rim sherd of an incurved rim bowl with a short everted lip of Ponce Black, Ponce Period.
13. Engraved sherd of Ponce Black from Ponce Period.
14. Aberrant sherd of Ponce Black showing the interior incised bottom of a flat-bottomed bowl from Ponce Period.

AGUILAR PERIOD

Aguilar Period materials come from levels 6 through 13. In terms of strata, they come from deposits from the upper portion of sub-zone 4 to the lower portion of sub-zone 1. The earliest materials of this period appear to have been dumped on a slope until it was gradually built up to a level surface. It appears that the area was then occupied (forming floor 2), abandoned for a short while, then inhabited again (floor 1), then once again abandoned and then reoccupied (see fig. 11). The last occupation of Aguilar is represented by the lower portion of sub-zone 1. Generally speaking, the Aguilar Period, as revealed in our excavation, saw a series of occupations and its material culture is abundantly represented (8,053 sherds).

Aguilar Red and Aguilar Gray appear to characterize the period, as well as certain new decorations on Progreso White (composing the sub-type Progreso White, Incised Curvilinear), the appearance of Chila White, the use of tripod feet on bowls, changes in vessel shapes, and shifts in popularity of older vessel shapes and decorations.

Progreso Metallic

The type has the same features as described in the previous period. It is in the uppermost levels of this period that the type finally completely disappears. Throughout most of the period it is a minority ware, being always less than 7 per cent.

Progreso White

In the early and middle part of this period the paste and surface finish are about the same as described for the previous periods. However, in the later stages certain changes appear. The temper ranges from the fine white particles and fine white sand to rather large granular pieces of grit. Also, the surface finish ranges from a thin chalky white wash to a definite "chalky, nearly white slip."[23] In terms of Ekholm's definition of Chila White, the sherds with large grit temper and a chalky white slip should be called Chila White, while the sherds with fine temper and a chalk wash fit the definition of Progreso White. Such sherds were classified with relative ease into these two types. However, sherds with granular temper and a chalky wash or sherds with fine temper and white slip were difficult to categorize. One found oneself classifying such sherds into one type at one time and into another at a later time. Therefore, it was decided that granular, large tempered sherds would be called Chila White and fine tempered sherds Progreso White regardless of surface finish. Such a classification was most arbitrary but seemed the only way to handle pottery that was intermediate and represented the development of one type (Progreso White) into another (Chila White).

As regards designs, there are some noticeable changes within the type. The sub-type Cylindrical Punctate, with designs of overlapping cylindrical punches, disappears during the early part of this period. The sub-type Hub and Spoke is very definitely on the wane. Both varieties of checkerboard designs are absent in this period, while the design of hub and spokes filled with cross-hatching is in the extreme minority. The design of hub and spokes filled with parallel lines, though rather important in the early part of the period, is on the wane and by the end of the period is dying out. The sub-type Opposed Areas is the dominant design class. The variety of this sub-type having opposed areas filled with parallel lines is the most common type of design, decreasing slightly toward the end of the period, while the varieties with cross-hatched areas separated by a number of parallel lines or areas of parallel lines in opposition to areas with cross-hatched lines are both very common and slightly on the increase over what they were in the previous period. Diagnostic of the last part of this period is the sub-type Incised Curvilinear. The commonest design of this sub-type is that having undulating bands of three to six parallel lines (see fig. 16, no. 13, 15, 16). Sometimes these undulating bands appear with linear punches or cross-hatching. Also present in the last part of the period is the sub-type Linear Punch, which has designs composed of parallel lines of linear punches (fig. 16, no. 11). These few sherds evidently are the beginning of the design so common in the Chila Period on both Chila White and Aguilar Red, sub-type Linear Punch. Designs of parallel lines only are not common in this period nor are the ones with only cross-hatching very numerous.

Vessel forms change and there are shifts in popularity of the older types as well as a disappearance of some of the older vessel forms. Flaring-sided bowls and outsloping straight-sided bowls with flat bottoms or slightly convex bottoms are no longer common, while outsloping straight-sided bowls and flaring-sided bowls with definite convex bottoms (composite silhouette bowls) are very numerous. There is also a tendency for the rims of the bowls to be more widely everted. Incurved-rim bowls, concave-sided bowls, hemispherical bowls, and plates occur. Recurved rim bowls are not as common as they were in the previous period. Small ollas with simple vertical necks appear for the first time in this period.

The most significant change in this period is the appearance of short and long solid conical tripod feet on the bottoms of the composite silhouette vessels. There is a slight tendency in the earlier levels for the short conical feet to be more common than the long conical ones.

Thus we see the growth of Progreso White and the gradual emergence from it of Chila White. Outside of the Huasteca few similarities to the Aguilar Period variants of Progreso White are to be found. Superficially, one white bowl from El Arbolillo I, with triangles filled with parallel lines on the interior bottom, looks vaguely similar, as do other incised sherds of the thin slipped variety of White Ware from that site.[24] A few of these sherds from Middle El Arbolillo have curvilinear lines suggesting the design common on the sub-type Incised Curvilinear of Progreso White. However, none of the sherds in the collection of the American Museum of Natural History from El Arbolillo I examined were large enough for me to be really sure that the design was the same.

Ponce Black

This type continues into the Aguilar Period with its paste and surface finish unchanged. There is a tendency for decoration to be totally absent. In vessel form there are some changes within the type. The hemispherical and incurved-rim bowls are less common though still present in fair amounts, while flaring-sided bowls with convex bottoms, rare previously, now appear in large numbers. Small jars with the outflaring rim

[23] Ekholm, 1944.

[24] G. C. Vaillant, 1935: fig. 21, no. 1.

at a sharp angle to the body appear. Bowls with concave sides and a slight basal ridge appear and may foreshadow the vessel form common to El Prisco Black of the El Prisco Period. In fact this type may well be the ancestor of El Prisco Black. The changes in vessel form of Ponce Black at Panuco from Ponce through Aguilar times somewhat parallels the change that occurs at Tres Zapotes from the Lower phase through the Middle phase.[25]

Aguilar Red

The temper is composed of minute white particles of caliche and quartz. The consistency is fair, the interiors being somewhat porous and sometimes laminated. Firing seems well done and the sherds are salmon pink to orange from surface to surface with only a slight tendency for interiors to be a little darker. Hardness is about 3.5. Sherds vary in thickness between ¼ and ¾ inch. Except for the color of the paste it is very similar to that of Progreso White.

The sherds are painted red (by a red wash) and polished, except for some interior bottoms. There is a general tendency for the interior rims or sides to be better painted and more highly polished than the rest of the vessel.

Decoration is usually by incising, though three sherds have been decorated by combing with a three-toothed object. The commonest designs have cross-hatched areas, triangles or squares, separated from each other by areas of parallel curved lines. Usually these curved lines are next to the areas of cross-hatching, but sometimes there are large undecorated areas between them. Slightly less common are undulating bands of parallel lines near areas of straight parallel lines (or, rarely, cross-hatched lines). Still less common are areas filled with parallel lines, the parallel lines of one area being at right angles or acute angles to those in the adjacent areas. Least common are parallel lines or only cross-hatched lines.

Recurved rim bowls with convex bottoms (with or without tripod feet) are the most common shape. Slightly less common and with a less distinctive shape for the type are convex bottomed bowls with short outflaring rims or outsloping straight sided rims. Incurved rim bowls as well as vertical incurved-sided bowls also appear.

On the bottoms of some vessels are tripod legs. Slightly earlier than other kinds of legs are the short solid conical ones. The other kinds are long solid conicals as well as three short conical ones which have two inverted pyramidal sections cut away from opposite sides forming a sort of loop foot. This latter type of foot may well be the prototype of those so common in the Tancol complex and those occurring in the El Prisco Period.[26]

This pottery type may have been introduced from an outside source into Panuco in Aguilar times, or may be a re-combination of stylistic concepts of the previous periods. Certainly the vessel forms, decoration and paste might well be derived from Progreso White concepts, while the red paint idea may have come from Heavy Plain. The vessel feet are obviously something new. Aguilar Red is mainly confined to the Aguilar Period and diagnostic of it, though a very few sherds of the type did appear in the Ponce Period and few appear in the early part of the Chila Period.

Aguilar Gray

The temper is grit and small particles of caliche in abundant amounts. The paste is porous and laminated. The cross sections show the sherds to be gray from surface to surface. Hardness is about 2.5.

Surfaces have a thin wash of mousy gray paint on them and they are poorly smoothed.

Decoration is confined to the interior bottoms, usually being incised cross-hatching. Less common are parallel lines formed by incision and/or by combing with a four-pronged tool.

The commonest vessel forms are bowls with a widely everted rim (sometimes almost horizontal) and outflaring out-curved sides blending into a convex bottom (recurved rim bowls). Less common are straight-sided bowls, outflaring-rim bowls, hemispherical bowls, and incurved-rim bowls. Six vessel feet were uncovered, four of them being short, conical and hollow while the other two were short, conical and solid.

Two other sherds have noticeably different shapes in that they have widely thickened and flattened lips. One of these is a hemispherical bowl with a wedge-shaped rim, while the other from an outflaring-rim bowl which has a lip so thickened that it overshadows the rim on both surfaces. These vessels are very reminiscent of the commonest form found in the Tancol complex of the El Prisco Period.[27]

The type is related to Progreso White and probably develops from it. It may be vaguely ancestral to Panuco Gray. It is only in the Aguilar Period and the early part of the Chila Period.

Heavy Plain

This type is about the same as it was in the previous period with a slight increase in the number of ollas having outflaring rims which contract into an almost pointed lip. Two loop handles were found. The earlier one of these may be a figurine arm. A double loop handle, also, was uncovered in the latest Aguilar Period level.

[25] P. Drucker, 1943*a*. Compare the vessel forms of Black ware of the Middle phase (table 2) with those of Lower phase (table 4) in the appendix.

[26] G. Ekholm, 1944.

[27] G. Ekholm, 1944.

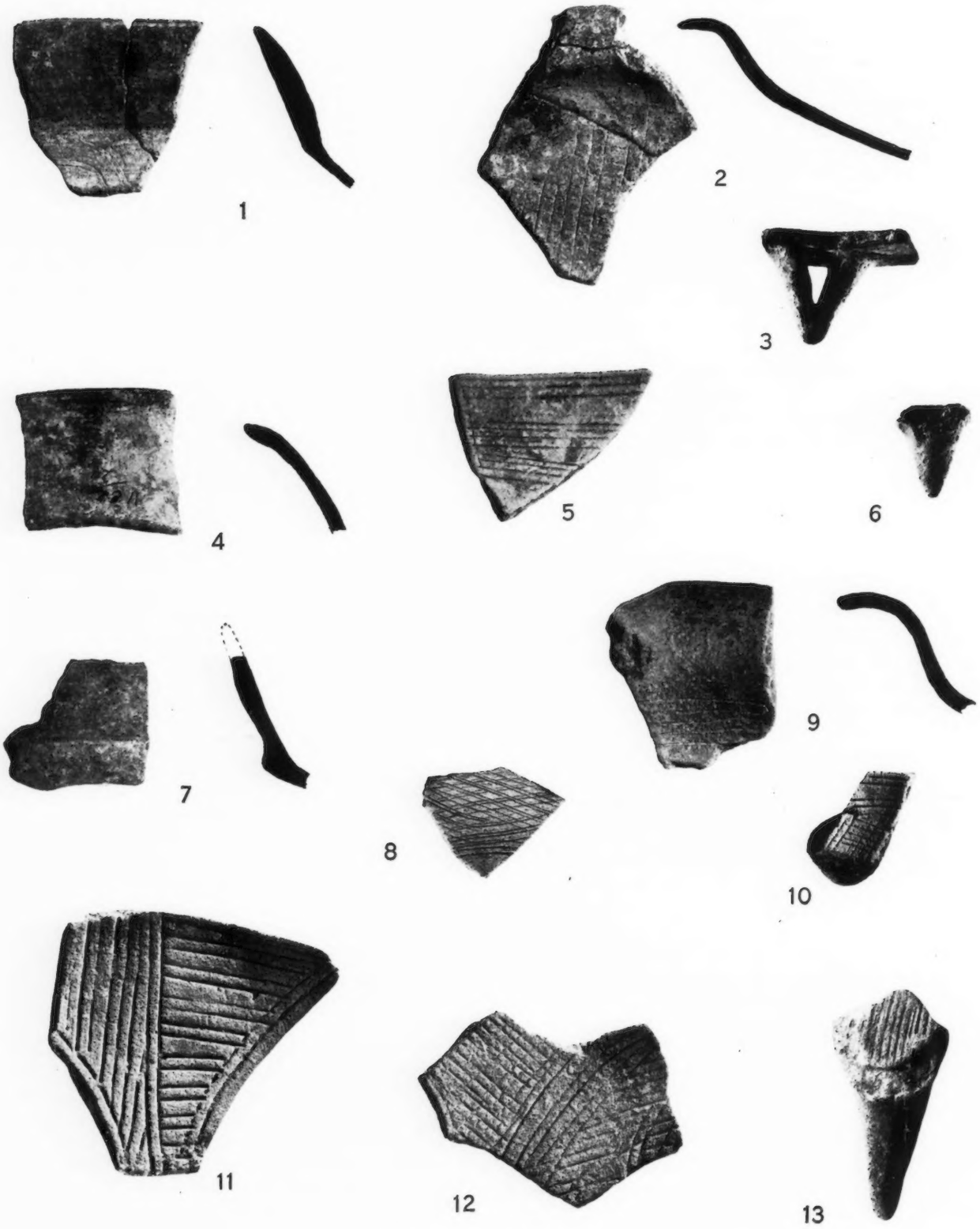


FIG. 14 (½ natural size).

Heavy Buff

It is about the same as in the previous period, though it is decreasing rapidly by the end of the period. One jar with a thickened lip has fabric impressions on the lip (fig. 15, no. 2).

Aberrant Sherds

Eight sherds characterized by thickened lips are considered aberrant. Three of these sherds have fine temper, a laminated porous consistency, a well-polished slip, yellowish-brown in color, with two thick engraved parallel lines that run around the lip (fig. 15, no. 8, 9).

While examining early sherds from the Valley of Mexico in the collections of the American Museum of Natural History in New York City, I found a sherd with almost the identical paste, surface finish, shape, and decoration from Santa Maria Zacatepec in the state of Puebla, Mexico. This site is very close to Cholula and is located on one of George Vaillant's maps in the Gualupita report.[28] Frustratingly enough, I was unable to determine the temporal horizons of the Santa Maria Zacatepec site, so the only three trade sherds I was able to identify definitely are of little value at present. Superficially, they resemble Tancol sherds and some of the white ware from Zacatenco I.[29] One of the sherds has a horizontal external projection (fig. 15, no. 9).

As regards the remaining thickened lip sherds, two sherds have a coarser paste and an orange slip. There is one thickened rim sherd, undecorated, with a paste identical to Progreso White. Two sherds have Progreso White paste, a white slip, and black lines about one-quarter of an inch wide and one inch apart streaming down the outer sides from the lip (fig. 15, no. 11).

One sherd with fine caliche temper in small amounts, a laminated paste, hardness of about 4.5, an orange slip, polished surface, and painted white on red decoration was found (fig. 15, no. 4). The decoration consists of a white painted strip running around the inner side of an incurved rim bowl with a squared lip. The white stripe is over the reddish orange paint on the rest of the bowl. Superficially, the sherd resembles white-on-red ware from the Early Period of Zacatenco I. One sherd has single red line on what looks to be a Progreso White surface and paste (fig. 15, no. 1).

A sherd from a vertical-sided jar with a rectilinear design of wide engraved lines cut through a mahogany-brown polished outer side is obviously aberrant. The temper is very fine quartz and the paste is porous. Hardness is about 3.75. A brown slip covers the outer side and continues on to the upper part of the inner rim, but most of the interior is carelessly smoothed, unslipped, and gray in color (see fig. 15, no. 12). Both Dr. Ekholm and myself felt that this sherd came from the Valley of Mexico but were unable to identify it or find any sherd identical to this one. It is superficially like some black sherds from Lower I or II of Cerro de las Mesas, central Vera Cruz.[30]

Forty-eight small sherds, representing about one-eighth of a flaring-sided jar with almost flat bottom, were different from any sherds I had previously found. The temper is small to medium sized grit and caliche, while the paste is porous and fired orangish. The surface both interiorly and exteriorly bears a slip. The interior slip is black and well polished, while the exterior is not well polished and its predominantly black slip has large irregular sections of white (fire clouds?). On the lower exterior of the outer side are three parallel (about ½ inch apart), wide (about ⅛ inch), engraved lines filled with red paint (fig. 15, no. 10). The sherds resemble the description and drawing of a pot illustrated by Drucker[31] as coming from Tres Zapotes. I was unable to determine exactly in which period at Tres Zapotes this variant of black ware occurs though I suspect it comes from the Middle phase.

The final aberrant sherd is a piece of an olla bottom. The bottom is concave and between the bottom and side is a small ridge. On the side of the vessel are wide vertical grooves. The temper is grit of medium size and the paste very porous. A thin brown slip covers both surfaces and evidently a maroon paint once covered the slip (see fig. 16, no. 8). I know of no analogous vessels.

[28] Vaillant, 1934: 13, fig. 1.
[29] Vaillant, 1930: 82, pl. II, f.

[30] Drucker, 1943*b*: 39.
[31] Drucker, 1943*a*: 63–64, fig. 35.

FIG. 14.

1. Aguilar Red rim sherd with curvilinear design on interior bottom.
2. Aguilar Red recurved rim sherd with interior crosshatching (other sherds show this area of crosshatching separated from the next by bands of parallel lines).
3. Conical pierced vessel foot of Aguilar Red.
4. Exterior of a rim sherd of Ponce Black.
5. Aguilar Gray interior bottom sherds decorated by combed lines.
6. Small solid conical foot of Progreso White.
7. Ponce Black sherd with basal flange.
8. Progreso White, sub-type Opposed Areas showing area of crosshatching separated from the next area by a series of parallel lines.
9. Aguilar Gray rim sherd with parallel lines on interior bottom.
10. Progreso White sherd with opposed areas of parallel lines and crosshatching with a small conical foot so worn that it is sub-conoidal.
11. Progreso White, sub-type Opposed Areas with opposed areas filled with parallel lines at right angles to each other.
12. Progreso White, sub-type Opposed Areas with crosshatched areas separated by a band of parallel lines.
13. Progreso White, sub-type Linear Punch, show a long solid conical foot.

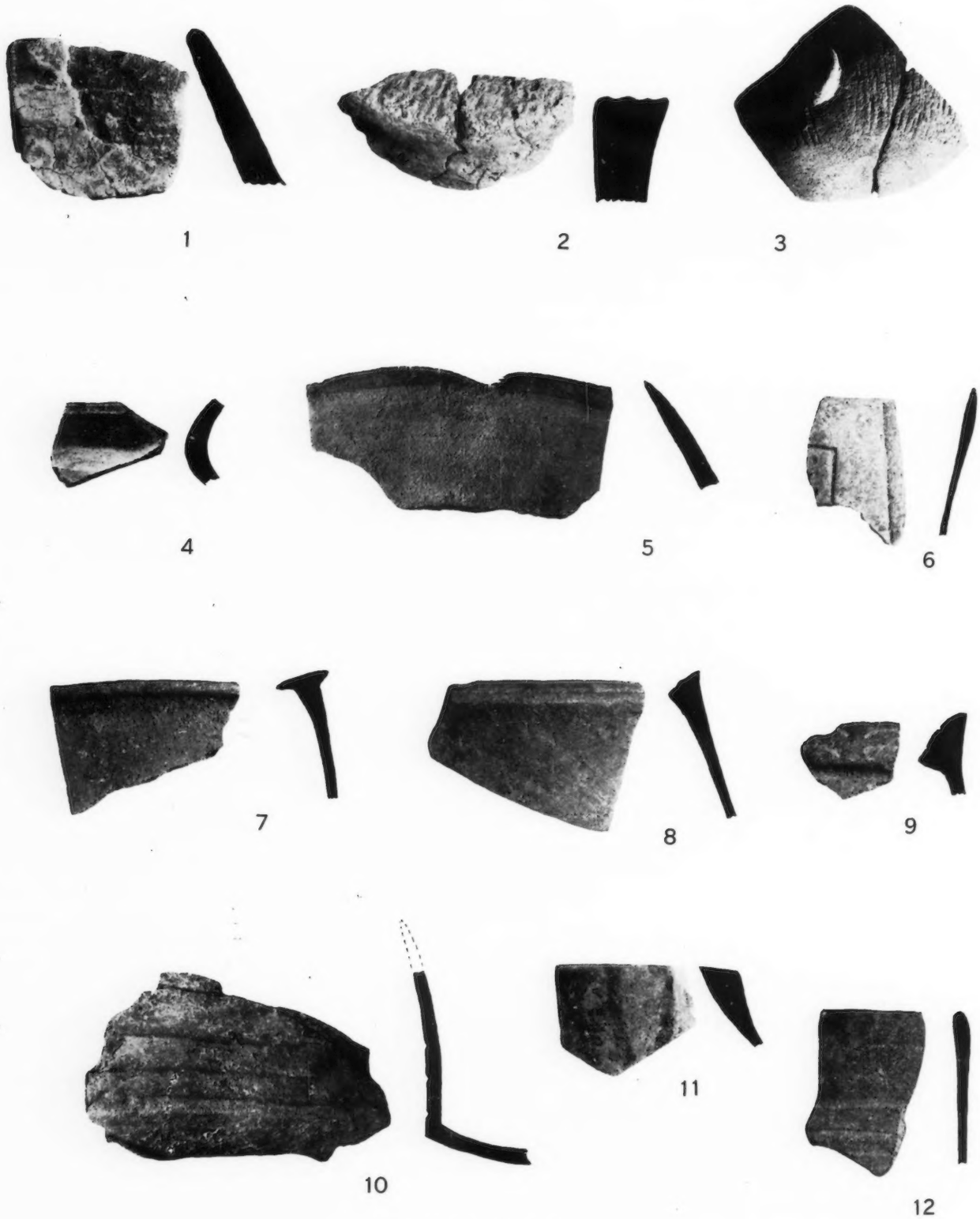


FIG. 15 (½ natural size).

Conclusions

The Aguilar Period developed from the earlier Ponce Period as evidenced by the considerable overlap in ceramics. However, there is a series of innovations that make it a distinctive complex. The introduction of Aguilar Red; Progreso White, sub-types Curvilinear Incised and Linear Punch; Chila White; Aguilar Gray; and the disappearance of Progreso Metallic and the Cylindrical Punctate sub-type of Progreso White represent significant new features, as do the introduction of tripod feet, thickened rim bowls, and the dominance of convex bottomed, outflaring, widely everted-rim bowls (composite silhouette bowl). While there were possible connections down the coast and toward the Olmec and the Maya area, as in the previous period, it would appear that some of the innovations in this period may have moved into the Huasteca from the Valley of Mexico. Besides actual trade sherds, vessel feet, handles, decorated thickened rims, and bichrome painting may be the Valley of Mexico additions.

CHILA PERIOD

Materials of this period occur in the upper two feet of Zone B (sub-zone 1). Relatively speaking, there were not many sherds (1,770). Sherds were somewhat weathered and/or leached and identification of types was difficult. Levels 2, 3, 4, and 5 come from this sub-zone. The deposit in which the materials are found appears to have been built by occupational debris. Four postholes were found extending down from about level 3 into level 5.

Progreso White

The paste and surface finish are the same as previously described.

Decoration is more uniform in this period. Cross-hatching over the whole interior of the bottom, as well as opposed areas filled with parallel lines (sub-type Progreso White, Opposed Area), continues. The rise of linear punch decoration, sub-type Progreso White, Linear Punch, represents one of the final changes within the type. This change parallels the rise of Chila White, having the same decoration.

The major shifts in vessel forms also show a great resemblance to forms of Chila White. Like Chila White, one of the major vessel forms is a vertical-sided bowl with a thickened or slightly flared lip. Also like Chila White, the dominant vessel form is a flaring-lipped straight-sided convex-bottomed bowl. These composite silhouette bowls are the most frequent form throughout the period, though in the early part of the period a few sherds of hemispherical bowls, concave-sided bowls, and recurved-rim bowls are present. Vessel feet are common, and besides conical solid short and long feet, feet resembling animal feet occur (fig. 16, no. 18).

Generally speaking, the type is dying out and being replaced by or developing into Chila White.

Chila White

Though this type has been previously described by Ekholm, I shall redescribe and in part redefine the type in the light of my excavations.[32]

The temper is abundant quartz (sand) of medium size (1 mm. cube); the consistency of the paste is coarse and laminated. Firing shows interiors to be gray or black which fade to a lighter color, brown or pink, at the surface. Hardness is about 3.5.

The surfaces are smooth and covered by a chalky, nearly white, slip or white wash.

Decoration is for the most part by linear punching though 12 sherds with cross-hatched incisions and one with two parallel incised lines do occur. Four sherds have linear punches with incised lines. The most distinctive shape is a vertical (slightly concave) sided bowl with a thickened lip. The commonest form is an outsloping straight-sided convex-bottomed bowl, while sherds of hemispherical bowls occur as do bowls with a basal flange, incurved rim bowls and hemispherical plates. Vessel feet are most commonly long and pointed, though one resembling an animal foot and one short conical foot were found.

The type, with minor variations, is the same as Ekholm describes and is confined almost entirely to the upper levels of the site VC-2. In the top level of Zone B it is present in almost the same proportions as were found in Ekholm's dig at the Pavon site.

Aguilar Red

The type is about the same as previously described except for four sherds in level 3 which have linear punches on their interior bottoms. These four sherds compose the sub-type Linear Punch of Aguilar Red.

[32] G. Ekholm, 1944: 341.

FIG. 15.

1. A sherd with a red line on the interior below the lip on a white background.
2. Heavy Buff sherd with fabric impressions.
3. Spherical effigy jar of Progreso White with a modelled ear and incisions representing hair.
4. White on red sherds.
5. Black line around exterior rim of Aguilar Gray.
6. This fine-pasted white-slipped sherd with zoned punctate decoration.
7. Thickened lip sherd with orange slip, from VC-1.
8. Thickened lip yellowish-brown slipped rim sherd with incisions on the lip.
9. Thickened lip yellowish brown slipped rim sherd with incisions on the lip and having a slight external horizontal protusion on the lip.
10. Side of black-slipped bowl with engraved lines filled.
11. Black lines streaming down the side of a thickened lip variant of Progreso White(?).
12. Mahogany brown slipped sherd with wide engraved lines.

Aguilar Gray

The same as previously described and a definite minority type.

Heavy Buff

This dies out early in the period and, from the few specimens found, appears to have remained unchanged.

Finer Plainware

Only a few sherds of this type were found. Temper is very fine sand and very sparse. The consistency of the paste is excellent and compact. In cross-section the sherds are dark in the interior but orange or brown at the surface. Superficially, the change gives the appearance of a slip. Hardness is about 3.5.

Surfaces are smoothed, unpainted, and unslipped. Decoration is absent.

Only three rim sherds were found; two were from hemispherical bowls, while the other was from an outflaring bowl with a ridge between the side and convex bottom. One bottom sherd has the remains of a hollow conical foot, and one whole foot was found.

As Ekholm has indicated, the type is really not a definable type and runs from Chila to Panuco times in small amounts.[33] Superficially, in their paste composition some of the sherds bear resemblance to the untempered orangish ware of Cerro de Las Mesas and to the "undecorated polychrome" sherds of Tres Zapotes.[34]

Heavy Plain

The paste is the same as previously described. There is, however, a minor difference in surface finish. Many of the surfaces are more crudely finished than in the previous period and some are scoured. This feature is characteristic of the later plainware sherds at Panuco, though it was absent before the Chila Period. This is a change within the type. Well smoothed sherds and some with a red wash still occur, but are rarer than previously.

Another change within the type is the presence of appliqué ridge decoration and handles. One double loop, two loop and one strap handles occur. Shapes are about the same as before, with a tendency for the necks to be straighter and more at an angle to the shoulder than previously.

One noticeable difference is the marked increase of this type in this period, though my percentages of plain ware are still considerably less than those found in the deepest level of Ekholm's excavation at the Pavon site in Panuco.

Conclusions

Sherds from the upper levels of VC-2 are exceedingly similar to those Ekholm found in the bottom levels of the Pavon site. The Chila White sherds and Heavy Plain are identical in many cases. There also is a tendency for the sherds in the top level of Zone B, sub-zone 1, to be more similar than those deeper in Zone B, sub-zone 1. Nevertheless, there still are differences from those of Ekholm. Some of these differences consist of the occurrence of Progreso White, Aguilar Red, Aguilar Gray, incised decoration on the bottom of vessels, and a larger variety of vessel forms. Some of these differences are more apparent than real, for undoubtedly some of the finer tempered sherds that Ekholm classified as Chila White are probably Progreso White, while the two "dull blackware sherds" are probably Ponce Black and some of the "miscellaneous red ware" sherds are undoubtedly Aguilar Red sherds. Furthermore, the larger number of sherds from my levels and the relatively few sherds not of Heavy Plain ware from the Pavon site could account for some of the differences. Another possible explanation for the differences and, I believe, the more important one, is that my materials of the Chila Period are for the most part earlier than those at the Pavon site. The statistical trends and frequencies of sherds in both Ekholm's and my excavations would certainly indicate this to be true. Certainly there is no justification for thinking that my materials belong to a period separate from that of Period I of Ekholm. I believe it is perhaps best to expand the definition and complex of Ekholm's Chila Period (Period I) to include my very similar materials. The materials from VC-1 give further justification for doing this.

Level 1

Most of the sherds from level 1 come from the redeposited, lowest sub-zone of Zone A. It is obvious that the sherds in the zone come from a number of different periods and do not represent a ceramic complex ever used by one group at the same time. I mention the ceramic content of the level for just one reason, namely, that there are included in this zone sherds of four later periods that confirm by stratigraphy the fact that the Chila, Aguilar, Ponce, and Pavon Periods precede Ekholm's Periods II through VI. Found in this level were: 1 glazed sherd of Spanish origin; 1 sherd of Huasteca Black on White (Period VI or Panuco Period); 1 sherd of Las Flores Relief, 3 sherds of Las Flores Red on Buff, 10 sherds of Zaquil Red (all of Period V or the Las Flores Period); 3 sherds of El Prisco Black and 1 sherd of El Prisco Black, fresco decorated (Period II or the El Prisco Period); as well as 11 Heavy Plain sherds, 10 Chila White, 5 Progreso White, and 208 sherds too badly worn to be identified.[35]

THE CERAMIC CHANGES AT VC–2

In the previous pages I have endeavored to point out ceramic changes in terms of pottery types, sub-types and

[33] G. Ekholm, 1944.

[34] Drucker, 1943*a*: 37.

[35] For description of most of these sherds see Ekholm, 1944.

changes within types. Certain types and certain characteristics within the types were considered to compose ceramic complexes diagnostic of the periods. These features of the pottery types and complexes of pottery types were considered to be tools for establishing chronology. As good a tool as the pottery type concept for visualizing change and chronology is the actual change of the ceramic features themselves. The individual ceramic changes and the pottery types are, of course, interconnected by the definition of a type and by the method of analysis for establishing types. However, since in typology there is the arbitrary classification into types of various significant segments of a continuum of culture changes and of a wide range of culture features into categories which overlap in innumerable ways, a study of the changes in the features themselves perhaps illustrates the ceramic complex characteristic of any period just as clearly as does a study of the more encompassing pottery types. Perhaps they more clearly point out the development, introduction or invention, and shifts in popularity of the various ceramic concepts inherent in the types.

The changes in paste and surface finish are most clearly reflected in the typology. Generally speaking, the sherds with fine temper and excellent paste are dominant in the Pavon Period, though sherds with fine temper and a coarse paste, as well as sherds with coarse temper and poor paste and sherds with coarse temper, poor paste, and very poor firing, appear. In the Ponce Period, the fine temper sherds with excellent paste are on the decrease, while the two coarser varieties stay the same and sherds with fine temper and porous paste, fired in a reducing atmosphere, appear. Generally, the paste group stays the same in the Aguilar Period, while the Chila Period ushers in a series of radical changes. In the Chila Period, the fine temper sherds with excellent paste and the very coarse, poorly-fired sherds disappear. Well-fired sherds with a coarse paste increase, while the fine temper sherds with good paste decrease along with sherds with large temper and good paste. Sherds with almost no temper and good paste appear.

Changes in surface finish are somewhat different, and we see the progressive additions of a series of new kinds of surface finish to those found in the Pavon Period, which were a red wash, a white wash, and plain surface. In the Ponce Period, polished black surfaces appear for the first time, while in the Aguilar Period a gray wash is used. In the Chila Period, white slips and plain slips are added to the other varieties (see chart 3).

However, it is in decoration (design and decorative technique) that the greatest changes take place. These are somewhat reflected in the sub-types of Progreso White. The various kinds of decoration are perhaps as diagnostic of the periods as the ceramic types themselves, and the radical changes in motifs and techniques of decoration certainly seem to justify the division of

CHART 3

THE CLASSES OF SURFACE FINISH AT THE LEVELS OF VC-2

Levels	Red Film	White Wash	Plain	Black Polish	Gray Wash	White Slip	Plain Slip	Totals
1								
2	.04 11	.12 25	.55 118		.07 15	.20 43	.03 6	218
3	.07 27	.12 47	.52 203	.01 2	.09 34	.16 64	.03 12	389
4	.11 37	.14 45	.40 132	.04 14	.04 15	.21 71	.04 15	329
5	.14 66	.33 149	.22 98	.07 32	.10 43	.15 68	.00 2	458
6	.16 81	.39 206	.21 113	.03 18	.06 32	.13 72		522
7	.25 238	.42 456	.18 213	.06 61	.06 67	.04 39		1,074
8	.26 301	.39 496	.12 280	.09 112	.05 68			1,257
9	.22 416	.41 831	.24 515	.08 160	.07 147			2,069
10	.21 298	.50 769	.15 252	.09 138	.02 75			1,532
11	.17 106	.57 382	.13 96	.09 51	.06 32			667
12	.13 41	.61 200	.12 42	.10 34	.04 13			330
13	.12 53	.62 309	.12 68	.10 49	.03 15			494
14	.23 72	.55 173	.14 47	.08 25				317
15	.16 46	.64 196	.09 33	.11 34				309
16	.09 28	.73 229	.10 34	.08 26				317
17	.07 15	.73 162	.08 20	.11 25				222
18	.12 32	.65 220	.13 55	.10 37				344
19	.16 79	.61 345	.18 115	.05 31				570
20	.18 97	.63 386	.15 108	.04 22				613
21	.18 14	.60 51	.21 18					83
22	.06 36	.81 493	.14 78					607

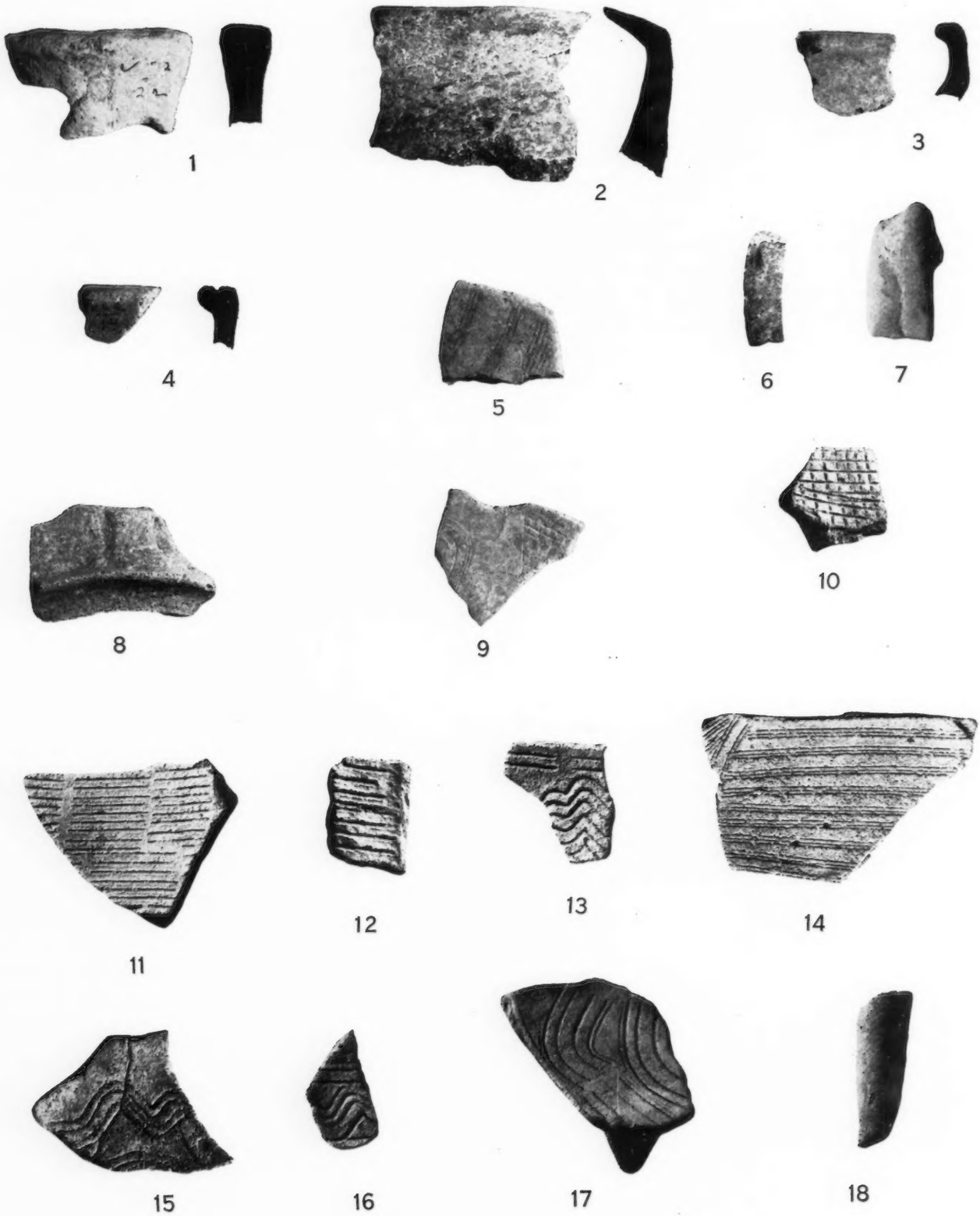


FIG. 16 (½ natural size).

CHART 4

THE VARIOUS KINDS OF DECORATION OR DESIGNS AT THE LEVELS OF VC-2

Levels in terms of sub-Periods	Areas of Cylindrical Punctates separated by parallel lines of overlapping Cylindrical Punctates	Overlapping Cylindrical Punctates in areas opposed to blank areas	Overlapping Cylindrical Punctates forming a spiral	Straight parallel lines	Checkerboard with diagonals filled with cross-hatching	Checkerboard with diagonals filled with parallel lines	Hub and Spokes filled with cross-hatching lines	Hub and Spokes filled with parallel lines	Curved parallel lines	Opposed areas of parallel lines	Cross-hatching only	Opposed areas of cross-hatching and parallel lines	Areas of cross-hatching separated by parallel lines	Wavy lines and cross-hatching or parallel lines	Bands of wavy lines	Linear Punches and bands of wavy lines	Parallel lines of Linear Punches	Totals
Early Chila levels 2–5				.01 2			.01 1			.21 28	.28 39		.01 2		.02 3	.03 4	.42 56	135
Late Aguilar levels 6–9		.01 4		.02 6			.03 9	.08 27	.01 4	.25 87	.15 50	.11 36	.17 57	.06 21	.06 20	.02 6	.04 12	339
Early Aguilar levels 10–13		.03 7		.01 4			.08 20	.37 88	.01 2	.35 84	.09 20	.01 2	.02 5	.02 5	.00 1			238
Late Ponce levels 14–17		.01 1		.09 10	.01 1	.01 1	.26 30	.49 56	.05 6	.07 8	.08 9	.02 2	.01 1					125
Early Ponce levels 18–20	.03 6	.04 7		.11 19	.08 14	.04 7	.28 49	.27 47	.01 3	.03 5	.09 15	.01 2						174
Late Pavon level 21	.25 2	.38 3	.12 1	.25 2														8
Early Pavon level 22	.50 10	.50 10																20

the materials into four periods. The Pavon Period is characterized by the use of overlapping cylindrical punches, forming lines in a few simple patterns, to wit: a spiral; a design that is either a checkerboard or opposed triangles with one part undecorated and the other filled with parallel lines of overlapping circular punches; and a variant of the latter pattern in which the areas filled with lines of overlapping linear punches are separated from each other by three elements—an undecorated strip, one or more straight lines of overlapping circular punches and then another undecorated strip. It is also important to note that undecorated bottoms of bowls are more numerous than decorated ones in this period.

The Ponce Period sees the fundamental shift to the incising technique of decoration. Checkerboard designs with blank squares alternating with squares filled with parallel lines, and checkerboard designs with alternate squares filled with cross-hatching are two designs that in motif may have been derived from those of the Pavon Period, but the use of incised lines instead of lines of overlapping punches makes them easily recognizable as distinctive decorations. However, the most numerous and most distinctive designs of the period are the wheel designs, with the hub and the short wide spokes filled with cross-hatching or parallel lines and with the area between the wheel spokes undecorated.

The Aguilar Period is characterized by distinctive designs as well as the use of the decorative technique of combing. The designs of opposed areas of cross-hatching and parallel lines, or of parallel lines of one

FIG. 16. National Museum of Canada Neg. No. M 214.

1. Heavy Buff sherd, Aguilar Period.
2. Heavy Plain, red variety.
3. Heavy Plain, plain variety.
4. Heavy Plain bowl with a thickened incised lip, from Aguilar Period.
5. Aguilar Red sherd decorated by combing.
6. Loop handle.
7. Double loop handle.
8. Aberrant basal sherds with grooves with a maroon slip.
9. Aguilar Red sherds with crosshatched area separated by an undecorated area from undulating bands.
10. Chila White sherds with crosshatching on interior bottom.
11. Progreso White, sub-type Linear Punch.
12. Chila White sherd decorated with linear punches.
13. Progreso White, sub-type Incised Curvilinear.
14. Progreso White, sub-type Opposed Areas with combed lines.
15. Progreso White, sub-type Incised Curvilinear.
16. Progreso White, sub-type Incised Curvilinear.
17. Progreso White, sub-type Incised Curvilinear.
18. Chila White, effigy foot.

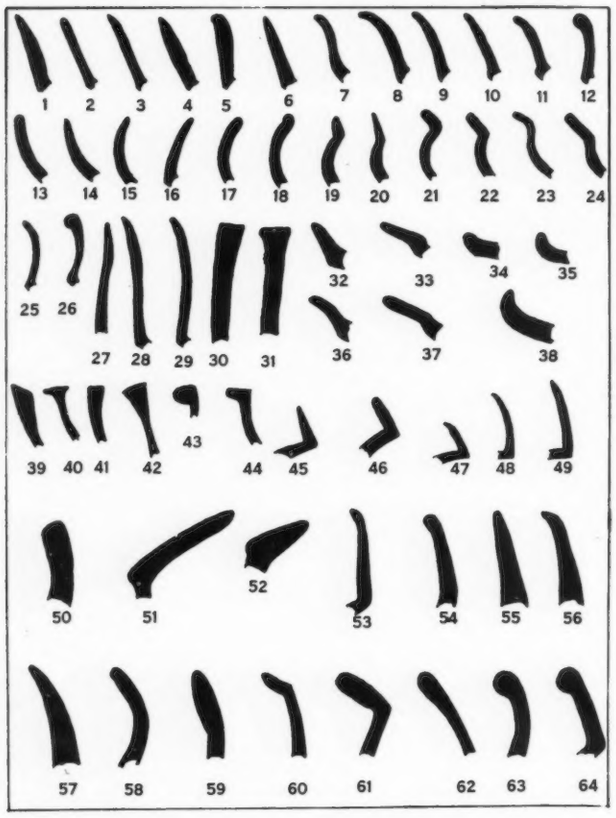


FIG. 17. Rim profiles of the ceramics. Inside of vessel to right of each profile.

opposed area at right or acute angles to the parallel lines of the other, are the most numerous. These perhaps developed from a re-combination of older designs that appeared in the Ponce Period in small amounts. However, designs with wavy bands composed of four to six parallel lines appear to be an innovation.

The Chila Period, while seeing the continuance of some of the older motifs, has a distinctive feature: the use of the linear punch and the arrangement of these linear punches in parallel lines. The Chila Period sees also the continued use of cross-hatching, opposed areas filled with parallel lines, and areas with cross-hatching in opposition to parallel lines, all of which continue into the El Prisco Period. The sequence of decoration alone would justify the establishment of four periods, as it appears we have four distinctive decorative complexes on the pottery.

The shifts in pottery types and decoration, moreover, are paralleled by equally radical shifts and developments in vessel forms (see chart 5 and fig. 19). These changes are only indirectly apparent in the pottery type descriptions. The Pavon Period is characterized by three basic forms: flaring-rimmed, flat-bottomed ollas with necks at right or center angles to the shoulders; flaring-rimmed, small-mouthed ollas with necks sloping gradually into a rounded body; and flaring-sided, flat-bottomed bowls. Two variants of these basic shapes are flaring-necked ollas with thickened lips, and outsloping straight-sided bowls with flat bottoms. Two sherds of incurved-rim bowls appear in the last stages of the period and may be instrusive from Ponce levels.

The Ponce Period sees the addition of eleven new vessel forms to the three (or five) of the previous period. Hemispherical bowls, overhanging-rim bowls with curved sides, and flaring-sided bowls with convex bottoms are perhaps the most outstanding of the numerous innovations. The Aguilar Period sees the introduction of four more vessel forms as well as the elimination of four of the older shapes. The most out-

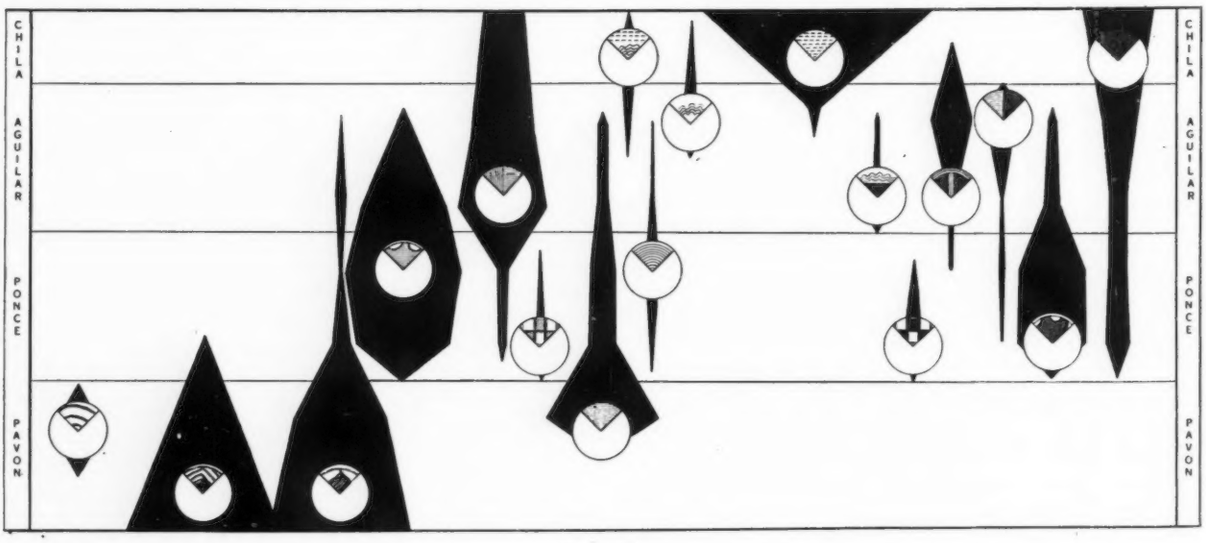


FIG. 18.

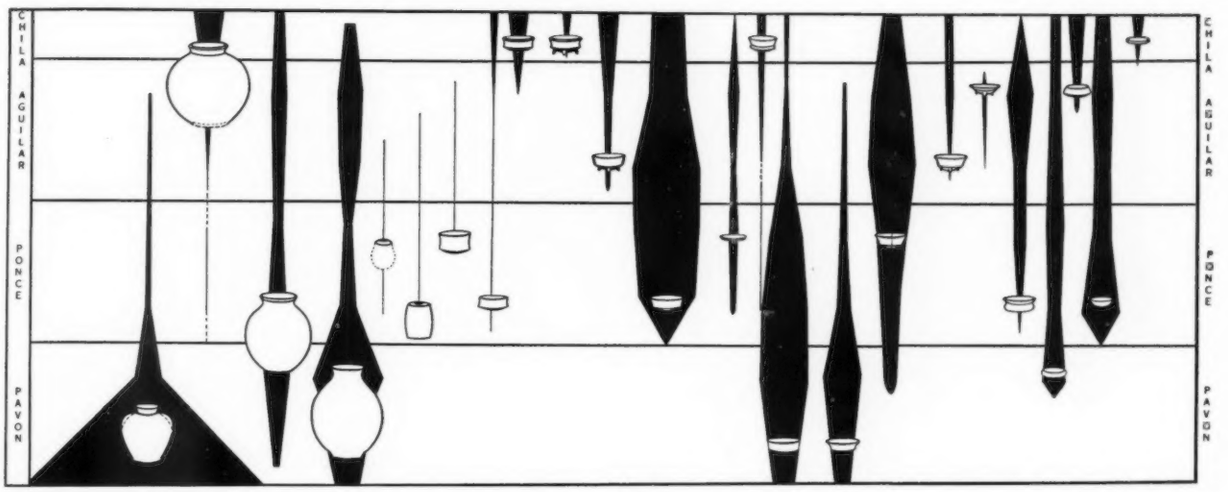


FIG. 19.

standing of the new vessel forms are those bearing tripod feet. The Chila Period, poorly represented in my sample, sees the addition of five more vessel forms (and, incidentally, Ekholm illustrates two more from his Chila Period level, bringing the total to seven).[36] The most outstanding of these new forms are vertical incurved-sided bowls with outflaring thickened lips and tripod feet. The occurrence of loop handles, strap handles and effigy tripod feet represents other significant additions in this period.

In conclusion, the study of individual ceramic changes seems to justify the classification of the materials of VC-2 into four sequential periods, each with distinctive

[36] Ekholm, 1944: fig. 4, D′ and Q.

CHART 5

RECONSTRUCTED VESSEL FORMS AT THE LEVELS OF VC-2

Levels in terms of sub-Periods	Reconstructed vessel forms based on rim profile, bottoms and appendages												
	Flaring-rimmed small-mouthed olla with neck at an acute angle to the shoulder with a flat base (45–49)	Flaring-sided flat-bottomed bowls (7–9)	Outsloping straight-sided flat-bottomed bowls (1–6)	Pointed-lipped flaring rim olla (55–58)	Thickened-lip flaring rim olla (59, 60, 61, 62, 63)	Incurved-rim bowls (15, 17, 19)	Flaring-sided convex-bottomed bowls (7–9)	Insloping thickened-rim ollas (30–31)	Outsloping straight-sided convex-bottomed bowls (1–6)	Hemispherical (flat-bottomed?) bowls (13–14)	Simple-rimmed plates (32–34, 36, 37)	Vertical concave-sided bowls (25)	Recurved-rim convex-bottomed bowls (19–20)
Early Chila levels 2–5	 1		.02 3	.04 9	.04 7	.04 7	.10 19		.22 39	.05 11	.00 1	.03 5	.02 4
Late Aguilar levels 6–9	.01 4	.01 7	.01 6	.08 46	.09 48	.04 19	.17 91	.01 4	.16 89	.09 54	.04 23	.01 3	.11 62
Early Aguilar levels 10–13	.01 3	.02 5	.04 13	.04 12	.05 17	.06 21	.22 65	.01 4	.32 93	.06 21	.02 6	.01 2	.05 17
Late Ponce levels 14–17	.01 2	.06 13	.15 32	.03 7	.06 12	.07 15	.12 27		.27 58	.08 18	.03 7	.01 3	.06 12
Early Ponce levels 18–20	.02 6	.06 20	.25 85	.07 18	.08 30	.05 16	.07 23	.02 5	.19 60	.15 47	.02 7	.01 3	.03 13
Late Pavon level 21	.10 2	.15 3	.20 4	.30 6	.10 2	.10 2	.05 1						
Early Pavon level 22	.61 26	.09 4	.12 5	.14 6	.05 2								

CHART 5—*Continued*

Levels in terms of sub-Periods	Reconstructed vessel forms based on rim profile, bottoms and appendages												
	Ollas with flared-lip and necks at an angle to globular bodies (53, 54, 64)	Small-mouthed jars with thickened rim (51–52)	Basal-flanged bowls (10–11)	Vertical-sided jars (27–29)	Recurved-rim bowls with tripod feet	Outsloping straight-sided bowls with tripod feet	Flaring-sided bowls with tripod feet	Thickened-lip bowls (39–44)	Incurved rim bowl with side at angle to base (16)	Hemispherical plates (35 and 38)	Thickened-lip concave-sided convex-bottomed bowls (12 and 26)	Thickened-lip concave-sided bowls with tripod feet	Totals
Early Chila levels 2–5	.10 18		.03 6			.06 10	.03 7	.01 2	.06 8	.04 4	.07 13	.02 4	178
Late Aguilar levels 6–9	.03 16	.01 6	.02 8	.00 1	.01 6	.03 14	.03 15	.01 3	.02 10	.01 4	.00 2		542
Early Aguilar levels 10–13	.01 2			.01 4	.00 1	.02 7	.01 3						293
Late Ponce levels 14–17			.02 5	.00 1									212
Early Ponce levels 18–20	.01 4	.01 3	.00 1										341
Late Pavon level 21													20
Early Pavon level 22													43

ceramic complexes. The ceramic changes also bespeak cultural continuity. Perhaps more important, they show the development of a relatively simple (primitive and unsophisticated in all but the manufacturing technique) ceramic complex of the Pavon Period into a sophisticated and rather typical Meso-American ceramic complex of the Chila and Aguilar Periods. Whether this development is part and parcel of the general ceramic evolution in Meso-America or whether this development reflects the gradual adoption of more sophisticated ceramic concepts from some Meso-American culture center by a backward people in the Huasteca, or a little of both, must await additional data on other early horizons in Meso-America.

ARTIFACTS OF CLAY

FIGURINES

Fragments of 18 figurine heads came from the excavation. No heads were found in the Chila Period levels and only one in the Pavon Period floors (a small fragment). Levels 9 and 10 produced one head each, while 3 were recovered from level 11. Thus the Aguilar Period is represented by 5 specimens. The Ponce Period is more adequately represented as 11 were uncovered. However, Roberto Pavon possessed about 40 more heads, 27 of which were in good condition and are illustrated in this report. He had unearthed these heads at various sites in and around Panuco and he stated that they all come from under El Prisco Period materials. Discussion with him about the stratigraphic location of these heads, observation of materials found in association with them, and comparisons with the figurines unearthed at VC-2 indicate that the twenty-seven recognizable heads probably came from Chila and/or Aguilar Period deposits.

In undertaking classification of the figurines, I relied primarily upon those found in the excavation of VC-2. However, I have included Pavon's figurine heads whenever possible in my classification in order better to comprehend the range of variation of some of the types. Some of the other heads in the Pavon collection have been tentatively classified into types, awaiting more exact stratigraphic and period determination.

In the literature, figurine types have usually been set up on the basis of the fact that certain figurines seem to have been manufactured by roughly the same method and to reflect the same aesthetic standards. The primary purpose of such classifications seems to be descriptive, and, secondarily, to establish chronology. It so happens that such a subjective classification of figurines, due perhaps to the fact that these subjective classes approach actual styles in the minds of their makers, has been useful in establishing chronology. However, under such a method significant areal and temporal variations may perhaps be lost.

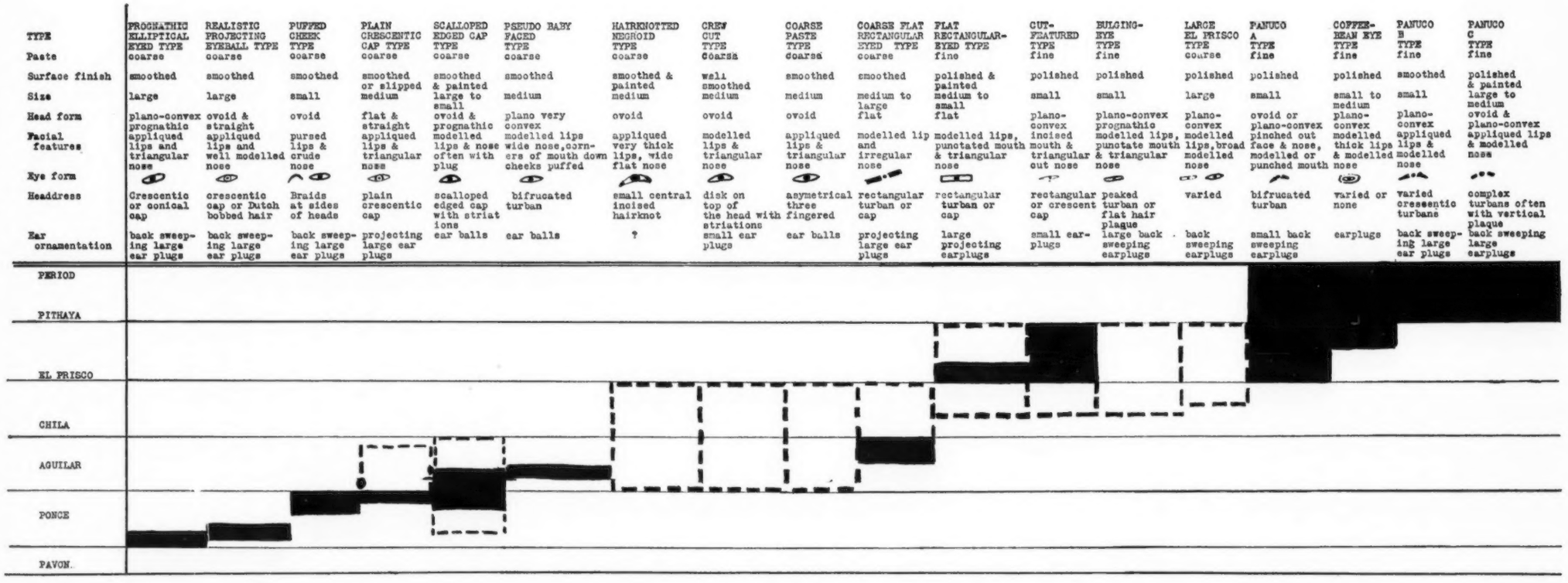


FIG. 20. The approximate chronological position of the early figurine types and their significant characteristics in the Panuco area.

In my classification I have adhered closely to the previously stated definition of a pottery type and have re-adapted this definition to figurines. I would define a figurine type as being: a class or group of figurines composed of interrelated similar features (such as method of manufacture, kind of eye, ear, nose, ornamentation, headdress, surface finish, and mode of execution) that have temporal (stratigraphic) or spatial significance. Such a type, I feel, will be the most useful in establishing chronology.

In establishing my types, the first step was to determine what the features were. At first I distinguished a very large number of features, including all possible variations that could be observed. The next step was to find out which of the various features were significant temporally. This was done by setting up a correlation chart with the figurine features as the abscissa and, as the ordinate, the stratigraphic levels of Ekholm's Pavon and El Prisco sites, his Tancol excavation 3, the Pavon collection, and the stratigraphic levels of VC-2. The number of occurrences of each of these features with regard to its stratigraphic position or province was then put in as the tabular values. From such a chart the features having temporal significance were readily observable. Next, I made a second chart with the various combinations of significant features as the abscissa, and the stratigraphic periods as the ordinate; the number of specimens at each period having any of the particular recombined significant features constituted the tabular value. It was again observable which of the combined significant features had temporal significance. These classes or groups of specimens having combined (or interrelated) features significant in time were considered to be types.

As may be seen from figure 20, the figurine heads from the VC-2 excavation belong to six different types, while some of those from the Pavon collection tentatively comprise three more types. One fragment from the excavation of VC-2 defied classification, as did four from Pavon's collection.

These types having features temporally or stratigraphically significant were then compared with figurines from other areas to see whether some of them did not have spatial significance. Since it was financially impossible for me to travel to see many actual specimens in other areas, the study of spatial significance was seriously hampered. It was necessary to compare my figurines by looking at photographs of specimens from other areas, reading descriptions of them, or by sending photographs of my figurines to individuals familiar with the material from other regions, so that they might make the comparisons. In spite of these limitations, it has been tentatively established that some of the types are related to those of other areas and thus may have spatial significance.

Prognathic Elliptical-Eyed Type

(fig. 21, no. 7, 8, 9)

There were three specimens of this type in level 20, the early part of the Ponce Period. A fourth fragment, also from that level, may belong to this type, but its fragmentary nature makes such a conclusion tentative.

One of the diagnostic characteristics of this type is the eyes, made by impressing into the wet clay an elliptical object (or two truncated ovate objects overlapping at their bases), slanting slightly downward toward the nose. The center of the elliptical hollow was pierced by a conical or pointed object which was driven into the clay sufficiently far so that the edges of the hole were tangent to the edges of the elliptical groove. The holes in all cases are filled with black asphalt paint.

Another characteristic of the type is full (rather negroid) everted lips, with the mouth half open. The lips appear to have been made by modelling two crescent-shaped appliqués of clay on to the face below the nose. Two of the specimens show remnants of black paint in the mouths.

Two other important characteristics of the type are revealed by the profiles (see fig. 21, 7B, 8B, 9B). First of all, the heads are plano- (or slightly concavo-) convex with top of the heads narrow and gradually thickening toward the relatively sharp chin, which is the thickest portion in cross-section. In fact, the profiles give the impression that their type of figurine is meant to depict individuals that had undergone fronto-occiptal deformation. The second fact concerns the angle of the head. Unfortunately, none of the heads I found were attached to bodies, but the relation of the neck to the head is quite informative. Assuming that the necks were straight, one may conclude from a study of the angle of the neck to the head that the heads were not in the same plane as the bodies, but sloped backward at a very noticeable angle from the vertical axis of the body.

Noses of the figurines are broad and triangular (specimen fig. 21, no. 9 appears to be much worn but originally was such), projecting a fair amount from the face. Nostrils are not depicted. Ear plugs are present on two of the specimens (fig. 21, no. 8, 9) and a broken portion at the junction between the head and what was probably an ear plug is present on the third specimen (fig. 21, no. 7). Generally speaking, the ear plugs slope backward from the ear to ear axis; they are roughly doughnut shaped and have a large, deep central perforation.

The paste of the clay of the specimens is about the same as that of Progreso White; the surface of the heads is smoothed, not polished; black asphalt paint is used to accentuate eyeballs and mouth; and the heads are solid and hand modelled. Heads are large, being about 7 cm. tall.

The characteristics mentioned above are common to all the specimens of this type, while five of the characteristics (eye, lips, large size, profile, and slope of the head) have significance in time and are considered diagnostic of the type.

The headdresses of the three specimens differ somewhat from one another and might be the basis for the establishment of sub-types or three related types when more specimens of this time period are available. The headdress of one is a hairknot (looking like a conical cap) on top of or through a crescent-shaped skull cap (see fig. 21, no. 9). It is painted with black asphalt paint. Another specimen has a simple crescentic skull cap (fig. 21, no. 8), while the third specimen of this type (fig. 21, no. 7) has a wide band of clay across the forehead, perhaps representing the lower edge of a crescentic cap, with an appliqué of clay above the left eye. This appliqué of clay looks like an ear of corn.

Temporally, this type has significance in that it is found only in the earliest level of the Ponce Period. Spatially, the type has significance in that it is similar to some figurine heads from the Ulua River in Honduras (fig. 25, no. 1–4) and from the Mamom Phase of Uaxactun and at Miraflores. Of no. 9 of fig. 21, R. E. Smith says "the head with hair knot or conical cap is quite like a white or cream ware type from Kaminaljuyu (Miraflores) which has red paint on the cap and a vertical red stripe on either cheek." [37] Ricketson illustrated a head from the Mamom levels of Uaxactun (pl. 73, *b*, 3) with a very similar hair knot or conical cap, and identical eye form, ear plugs, nose, mouth and lips.[38] Furthermore, she states that those from Uaxactun, Mamom phase (including the one illustrated) "show fronto-occipital deformation" like these from Panuco.[39] The other two specimens (fig. 21, no. 7, 8) are very similar to those illustrated by Ricketson (pl. 73 *a*, 1, 2, 3, 4 and *b*, 1 and 2) from Mamom levels at Uaxactun.[40] R. E. Smith says "the usual manner of making the eye at your Rio Panuco site appears to be identical to that used at Uaxactun" and that the early heads at Panuco are "very reminiscent of Uaxactun types in head form, features, head-dress or hair-do.[41] Furthermore, a few from Uaxactun even have an appliqué of clay over the left eye and on top of a skull cap." [42]

Mr. Hay of the American Museum of Natural History of New York, upon seeing my figurines, suggested I look at a collection of figurines from El Salvador in the Museum. Two of these figurines have a most remarkable resemblance to two of the specimens of the prognathic elliptical-eyed type from Panuco. One of these figurines from El Salvador has a crescentic cap with an appliqué of clay over the left eye, a triangular nose, crescentic appliqué lips, is plano-convex in cross-section, prognathic, large in size, and has the typical centrally punctated elliptical eye. It shares all these features with the Panuco specimen of fig. 21, no. 7. The other specimen from El Salvador is prognathic, plano-convex in cross-section, has crescentic appliqué lips, a triangular nose, a conical cap, and crudely executed punctate elliptical eyes. It is rather similar to the Panuco specimen of fig. 21, no. 8. As has been noted previously, the early "Maya" type of figurines extends into El Salvador.[43] Thus the resemblances, noted in the previous paragraphs, between the earliest Panuco figurine types and those of the pre-classic Maya area, are further confirmed by the El Salvador (Maya) specimens.

In the southern Vera Cruz areas none of the types are particularly similar to these Ponce Period specimens though eye type and the large size of lower Tres Zapotes specimens are the same.[44] In the Valley of Mexico only Type Di shows even vague relationships.[45] Within the area, the prognathic elliptical-eyed type shows similarities to the bulging-eye type which tentatively was assigned by Ekholm to the El Prisco Period,[46] though none were actually found in excavation.

In conclusion, it appears that these Panuco specimens, in as far as can be determined from the descriptions, photographs, and the few specimens I have seen, bear greatest similarity to those from the Mamom Period of Uaxactun. In fact, these similarities represent perhaps the best concrete link, so far discovered, between the two great areas of Maya-speaking peoples. One is tempted to interpret this similarity as the continuance of a similar figurine tradition in each area from a horizon ancestral to both Mamom and the Ponce Periods.

Realistic Projecting Eyeball Type

Two figurines of this type were found in level 19 of the Ponce Period (see fig. 21, no. 5, 6). Both are large, very well modelled, aesthetically pleasing, and are more Caucasian than Mongoloid in their facial features. The delineation of the eyes is diagnostic for this type. An eye was made by twice impressing into the clay an object that, in cross-section, was roughly an isosceles triangle, with a flat or slightly concave bottom. In each of these impressions the apexes of the triangle were impressed most deeply and pointed in opposite directions, while the less deeply impressed bases of the triangles just barely overlapped. This made a diamond-shaped impression with a definitely raised center. The raised center, looking like an

[37] Personal communication.
[38] Ricketson, 1937: pl. 73.
[39] Ricketson, 1937: 211.
[40] Ricketson, 1937: pl. 73.
[41] Personal communication.
[42] R. E. Smith, 1936*a*: pl. 73*a*, *b* 1–4, *d*.
[43] R. E. Smith, 1940: 248.
[44] Drucker, 1943*a*.
[45] Vaillant, 1930.
[46] Ekholm, 1944.

FIG. 21 (½ natural size).

eyeball, was then pierced in the center by a sharp pointed object to depict the pupil of the eye. The eyes were originally made on a slightly bulging surface so that the subsequent impressing caused slight folds looking like portions of eyelids. The eyes are roughly horizontal.

The noses are distinctive, being well modelled, slightly up-turned, and with nostrils indicated. Lips are full, everted, and slightly parted. In cross-section, the heads are ovoid with slightly projecting, well-rounded chins. The heads also appear to have been set vertically on the bodies.

The paste and surface finish are about the same as in the previous type and the heads are also solid and hand modelled. The skull cap, eyeballs, and mouth of one have been painted with asphalt paint (fig. 21, no. 6).

One of the heads has doughnut-shaped ear ornaments (fig. 21, no. 6) while the other is too badly broken to discern them.

In headdress, the two are rather different. The more complete specimen (fig. 21, no. 6) has a crescent-shaped skull cap, painted with black asphalt paint, and there is a modelled object, possibly an ear of corn, over the left eye. This headdress resembles one of the prognathic elliptical-eyed type (fig. 21, no. 7). The headdress on the second specimen (fig. 21, no. 5), though part of it has been broken away, appears to represent hair in a kind of Dutch bob style.

Again the most similar types to these two from Panuco are from the Mamom phase of Uaxactun. The eyes, ear ornaments, features, and head form seem to be identical. To quote R. E. Smith, "at Uaxactun a few were found with hair indicated as in your specimen" with the Dutch bob (fig. 21, no. 5).[47] A few specimens from early Tres Zapotes (pl. 35) are similar as to hair and eye form but the cross-sections and facial features are very different.[48] The headdress of specimen no. 6 of fig. 21 is found at Uaxactun in the Mamom plate, according to R. E. Smith.[49]

Thus again another of our early types from Panuco is similar to ones from Uaxactun, Mamom phase. However, it is perhaps also significant that one of the heads of this type has a Dutch bob hairdo, not unlike that commonly found on figurines from early Tres Zapotes.

Puffed Cheeked Type

(fig. 21, no. 1, 4)

It is with some hesitation that I lump these two specimens from levels 15 and 16, late Ponce Period, into the same type. They have in common puffed cheeks, well-rounded bulging foreheads, poorly defined rounded chins, indistinct bulbous noses, full projecting lips (both specimens' lips are partially broken) with half open mouths, strong thick necks, a well-rounded cross-section, and are small in size (about 1¼ inches high). They differ in many features. One of the more important differences is the eyes, one specimen (fig. 21, no. 1) having a small hole placed in the apex of a crescentic groove, the horns of which point down, while the other has a relatively large hole in the center of a deep elliptical groove (fig. 21, no. 4). Headdresses are almost absent, the early specimen (fig. 21, no. 4) having long protrusions on the side of the head looking like hair knots, while the other (fig. 21, no. 1) has two adjacent braids running across the top of the head as well as large protrusions on the side of the head. Each braid on the latter specimen is composed of three flat overlapping elliptical pieces of clay. This type of braiding is very similar to some from Cobán, Guatemala, and from the Mamon phase of Uaxactun.[50] This latter specimen has black paint on the back of the head and in the eyes and mouth, as well as small pieces of white paint adhering on the face.

Good analogies to this type are unknown. It has been suggested that it looks like some of the "baby faces" of middle Tres Zapotes, a suggestion with which I do not concur. To me it appears more similar to some heads at Uaxactun in the Mamom Period, the puffed cheeked, human effigy whistles.[51] However, those at Uaxactun are whistles and do not really constitute a figurine type.

Small Plain Crescentic Cap Type

One head was found in level 15, late Ponce times, at VC-2 (fig. 21, no. 3) while Roberto Pavon had six from his excavations (fig. 23, no. 13, 14, 15, 24, 25, 26). Probably the latter belong to the Aguilar Period. The heads are small, being 1½ inches in height; the surfaces are smoothed, often having a thin slip or clay

[47] Smith, personal communication.
[48] Drucker, 1943*a*: pl. 35*d*, *g*, *h*, *i* and *n*.
[49] Smith, personal communication.
[50] Ricketson, 1937, pl. 74*a*.
[51] Ricketson, 1937: 213.

FIG. 21. National Museum of Canada Neg. No. 210.

1. Puffed cheeked type from level 15. (A) front view; (B) side view; (C) back view.
2. Earliest figurine fragment. Type not determined, from level 21–22.
3. Small plain crescentic cap type, from level 15, (A) front, (B) side, (C) back.
4. Puffed cheeked type, from level 16. (A) front, (B) side, (C) back.
5. Realistic projecting eyeball type, from level 19. (A) front, (B) side, (C) back.
6. Realistic projecting eyeball type. From level 19. Note ear of corn above left eye on the cap. (A) front, (B) side, (C) back.
7. Prognathic elliptical-eyed type, from level 20. Note ear of corn appliqué above left eye. (A) front, (B) side, (C) back.
8. Prognathic elliptical-eyed type with plain crescentic cap. From level 20. (A) front, (B) side, (C) back.
9. Prognathic elliptical-eyed type with conical cap or hair-knot, from level 20. (A) front. (B) side, (C) back.

wash. Characteristically, the heads have a crescentic cap, large doughnut-shaped pierced ear plugs (except one, fig. 23, no. 14, which has ear balls), triangular pointed noses, appliquéd and lips. The heads are roughly triangular in cross-section, with the apex of the triangle at the top of the head. The eyes are like the realistic projecting eyeball type.

These heads may be a development from the earlier prognathic elliptical-eyed type. Temporally, they may be characteristic of late Ponce and early Aguilar times. There is a good resemblance in head form, eye type, facial features, and crescentic cap to some of those from Uaxactun, Mamom phase. Specifically, this Panuco type is very similar to one illustrated by Thompson from Benque Viejo, Period I*a* (contemporaneous with Mamom of Uaxactun)[52] (see fig. 25, no. 8, 9).

One of the heads from the El Salvador collections of the American Museum of Natural History of New York is extremely similar to this type from Panuco. Similarities are the kind of eye, nose, lips, cap, cross-section, and earplugs.

Thus again another of the early Panuco Ponce Period figurine type has its closest analogies with those from the Maya area.

Scalloped-Edged Cap Type

Fourteen specimens of this type were available. Two of the specimens come from the lower levels (14 and 15) of the Ponce period, and two come from the upper levels (10 and 11) of the Aguilar Period in the excavations at VC-2 (fig. 22, no. 7, 9, 10). Ten specimens were in the Pavon collection and may be of Aguilar Period times (see fig. 23, no. 1–10).

The eyes are one of the diagnostics of the type, being shallow elliptical or half-moon impressions on a bulge in the clay, with a large perforation by a sharp cone for the eyeball. As characteristic as the eyes is a scalloped-edge crescentic cap or hair arrangement. The surface of this cap or the hair is marked by vertical striations. There is some variation in the number of scallops, from 2 to 12 scallops appearing (commonly, they are 3 in number). One of the specimens (fig. 22, no. 9) has a triangular appliqué on the cap, with 3 scallops at the base of the triangle. It looks a little like a maple leaf.

Facial features are well done, noses being triangular and slightly upturned. Two specimens (fig. 22, no. 9; fig. 23, no. 1) have nose plugs. Lips are pronounced but well modelled into the face, and are slightly parted. At least seven of the specimens (fig. 22, no. 7, 9; fig. 23, no. 2–6) have ear balls. Others may have originally had such and a definite ear plug appears only on one specimen (fig. 23, no. 10). In cross-section, heads are ovoid and evidently slope back from the vertical axis of the body. One specimen has a small, well defined goatee or small beard (fig. 22, no. 7).

[52] Thompson, 1942: fig. 55b.

The paste is similar to that of Chila White. Surfaces are often painted or washed white, eyeballs and mouths are often black and faces bear red or black stripes on them. There is considerable range in size in this type, with the earlier ones inclined to be larger than the later ones.

Temporally, the type belongs to Aguilar and the late Ponce horizon. Just what is ancestral to the type is difficult to say. The large coarse paste type, defined by Ekholm,[53] of the Chila Period may be derived from this type.

Spatially, closest relationships are again with the Mamom phase of Uaxactun, and with Kaminaljuyu (see fig. 25, no. 5, 6, 10, 11, 12, 13). R. E. Smith illustrated a head extremely similar to this type from the earliest level at Uaxactun.[54] The scalloped edged striated cap, the eyes, head form, and facial features are identical in figurines of the two areas. R. E. Smith was at first struck by the remarkable resemblance, and on seeing the photograph of one of my scalloped-edged cap type, he wrote that it was an "excellent preclassic type . . . appearing to resemble Uaxactun examples." With true scientific caution he wanted to know the paste type and said that "profiles would help to strengthen or detract from this opinion." Upon seeing photographs of the profiles and having the paste described, he thought they were "very reminiscent of Uaxactun types," that "the hair or perhaps turban is generally indicated in much the same way," and that one of his specimens[55] " . . . even has a hole in the top of the head as does yours" (fig. 22, no. 9). A number of specimens from Kaminaljuyu have not only facial features, eyes, cap and size identical to those from Panuco, but one even has earballs (see fig. 25, no. 13).

The presence of a goatee or small beard on one specimen of this type (fig. 22, no. 7) suggests relationships with Middle Tres Zapotes. However, the other features of the heads of this type are not similar.[56]

Vaguer relations of the scalloped-edged cap type may also be seen to the earliest examples of Vaillant's Di types from Early Zacatenco. The general facial features, the eyes and hair of my Panuco type are generally similar to his illustrations no. 5, top row, and no. 4 and 5, bottom row, of plate XVIII.[57] One type A figurine, presumably of Middle Zacatenco times, has a similar headdress and eye type.[58] However, the resemblance of his types are not as close to the Panuco type as are those from Uaxactun.

[53] Ekholm, 1944.
[54] Smith, 1936*a*.
[55] R. E. Smith, 1936*a*: fig. 2.
[56] Drucker, 1943*a*.
[57] Vaillant, 1930.
[58] Vaillant, 1930: pl. XXI, third row, no. 4.

Coarse Flat Rectangular-Eyed Type

Two specimens were found in Aguilar Period levels, levels 9 and 11 respectively (fig. 22, no. 5, 6). Roberto Pavon informs me that they also are found associated with pottery of the Chila Period, but we found none in our excavations. (It must be remembered, however, that our Chila Period remains were scanty.)

Characteristic of the type are the eyes made of two slanting rectangular impressions end to end, with a small round punctation between them. The sides of the head indicate ear plugs to have been doughnut shaped, jutting out from the head and parallel to the ear to ear axis. Lips are pinched out and mouths are indicated by two punctations. Noses are triangular and not prominent, and may or may not have nostrils indicated. The backs of the heads are flat, and the faces are nearly flat except for the jutting of the pointed chin and the nose. One headdress is a rectangular cap, while the other is a rectangular turban-like cap composed of two almost parallel bands of clay.

The heads are relatively large, one being 2 inches in height while the other is 2¾ inches high. The paste is coarse, slightly coarser than the paste of Chila White, and the surface is smoothed. In their coarse paste and large size they are radically different from Ekholm's flat rectangular-eyed type, though they are similar in certain other respects.[59] No doubt this type is ancestral to Ekholm's type.

One of the type A specimens that Vaillant illustrates, coming from Middle Zacatenco times, has a similar eye form and the cross-section is almost identical.[60]

Pseudo Baby-Face Type

(fig. 22, no. 8)

The one specimen found comes from level 11 of the Aguilar Period. It is very similar to some of the baby-face types from Tres Zapotes illustrated by Weiant 1943 (pl. 19, figs. 7, 8, and 9) and may represent a variant of such.[61] It is similar in having: a short, broad nose with nostrils indicated; a mouth which droops slightly at the corners, and with lips poorly indicated; a simple headdress, being a two-strand turban meeting at the center of the head (like figs. 7–9 of pl. 19, Weiant, 1943);[62] round and puffed cheeks; rounded or "puffed" foreheads, and a suggestion of a double chin; and a solid, hand modelled head, ovoid in cross-section. The head is unlike those from Tres Zapotes in its brown coarse paste, its open eye composed of two triangular impressions with a central round hole for the eyeball, and in its round ear balls below the ears.

Whether the differences outweigh the similarities is difficult to decide with only one specimen available. If it is decided that this is a true "baby-face" type, then it would speak for the contemporaneity of the early part of Middle Tres Zapotes of southern Vera Cruz and the Aguilar Period. The type is also similar to the puffed-cheeked type of Panuco in a general way.

Hair-knot Negroid Type

These three heads (fig. 23, no. 19, 20, 21) are from the Pavon collection and may belong to the Chila or Aguilar Period. None were found in excavation.

The faces are ovoid in shape. Noses are triangular, very wide and flattened. Lips are thick (appliqué clay), mouths are opened and relatively large in proportion to the face. Eyes are roughly semi-lunar with the lunar tips pointing down, while the eyeball is represented by a round punctation. On the top of the head is a glob of clay marked by a series of deep, widely spaced vertical incisions. Ear ornaments are peculiar in that they are neither balls nor round plugs but hang down like over-extended or stretched large ear lobes. Eyeballs and eyebrows are usually indicated by black paint. One specimen (fig. 23, no. 21) is painted black all over. Surfaces are smooth and the paste is about the same as that of other types.

Analogies with this type in other areas are not good. From Middle Tres Zapotes, Drucker's figurines in pl. 45, K and L and pl. 37 L,[63] look similar but, of course, it is difficult to tell from photographs. Weiant's figurines from Tres Zapotes pl. 21, 1 and pl. 27–3, 4 and 5, also show some resemblance to the Panuco type, but again the resemblance is not too marked.[64] From Cerro de las Mesas, Lower I, Drucker illustrates (pl. 27*i*) one very similar as to eyes, mouth and nose but his has no hair knot.[65] Perhaps the most similar specimens come from La Venta, with similar eyes, lips, hair knot, and cross-section (see Drucker, pl. 3*e* and pl. 4*n* and *o*).[66]

Crew-Cut Type

Two figurines of this type are in the Pavon collection. Eyes, features, paste, and general head form are similar to the scalloped-edged cap type. The hairdo is distinctive, being a small ovoid mass of clay in the center top of the head, marked by fine parallel vertical striations (fig. 23, no. 16, 17).

Analogous types from other areas have not been found.

Coarse-Paste Type

Ekholm originally defined this type from five figurines purchased in Panuco and one found in the fill of Mound A at Las Flores.[67] The two specimens

[59] Ekholm, 1944.
[60] Vaillant, 1930: pl. XXI, top row, no. 5.
[61] Weiant, 1943.
[62] *Ibid.*
[63] Drucker, 1943*a*.
[64] Weiant, 1943.
[65] Drucker, 1943*b*.
[66] Drucker, 1947.
[67] Ekholm, 1944.

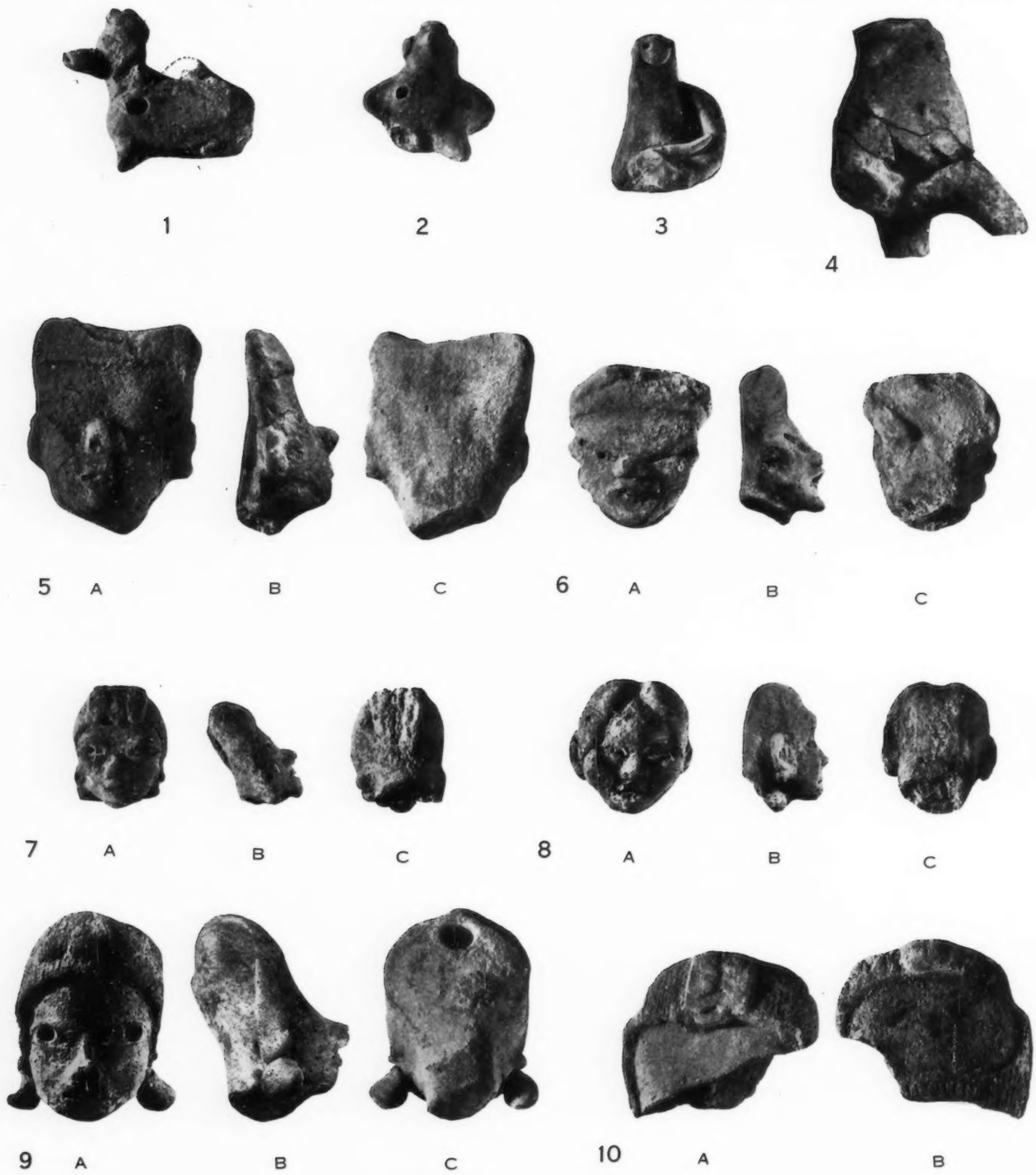


FIG. 22 (½ natural size).

1. Bird effigy whistle with small loop handle on its back, from level 8.
2. Anthropomorphized bird rattle or whistle, from level 6.
3. Monkey effigy, from level 9.
4. Body fragment of a figurine with three legs and four teats.
5. Coarse flat rectangular-eyed type, from level 9. (A) front, (B) side, (C) back.
6. Coarse flat rectangular-eyed type, from level 11. (A) front, (B) side, (C) back.
7. Scalloped-edged cap type, from level 10. Note goatee. (A) front, (B) side, (C) back.
8. Pseudo baby-face, from level 11. Note ear ball in side view. (A) front, (B) side, (C) back.
9. Scallop-edged cap type, from level 15. Note prominent ear balls and triangular maple-leaf-like appliqué on cap. (A) front, (B) side, (C) back.
10. Fragment of scalloped-edge type, from level 12. (A) front, (B) back.

illustrated (fig. 23, no. 11, 12) in this report are from the Pavon collection. Thus all examples are not definitely tied by stratigraphy to any particular period. Discussions with Roberto Pavon indicated that they might belong to the Chila Period. However, two of Ekholm's specimens of this type have the ear balls that are so characteristic of the Aguilar Period.

The paste of this type was described as coarse by Ekholm and is about the same as that of all my earlier types. Surfaces are smoothed. The faces are round; eyes are slanted, being made by placing a central round punch inside the groove made by two isosceles triangular impressions overlapping at their bases. The most distinctive feature of the type is the asymmetrical headdress over the left eye. These headdresses resemble a three-fingered hand with the fingers pointing down.

Analogies to this type are unknown. One head from Cerro de las Mesas, trench 13, 60–72 inch level, Lower II Period (see Drucker, pl. 56, row 4, no. 2) does look similar, but it is difficult to tell from the photograph.[68] Ekholm suggested a relationship to figurines of central and southern Vera Cruz on the basis of the paste; I am inclined to agree with him, although many types with the above-mentioned diagnostic characteristics have not yet been found south of Panuco.[69] This type may well have developed locally from the scalloped-edged cap type.

Aberrants

One aberrant was found in excavation, while four were in the Pavon collection. I might add that I believe the one head that Ekholm found in the lower levels (Chila Period) at the Pavon site is also an aberrant.[70] These six heads do not have similarities to others in the Panuco area, though a few are similar to ones in other areas. Thus a few of these may be trade figurines.

Aberrant 1. This top portion of a head came from VC-2, level 22, floor 5, of the Pavon Period (fig. 21, no. 2). It is of coarser paste than any of the other specimens from the site. The head evidently had a crescentic cap with a notched edge surrounding the face, and had either a conical cap or conical hair knot on the top of the head. Only a portion of one eye may be seen; it appears to have been made by piercing the sloping forehead with a conical object (like a pencil point) at an angle up and out from the nose. This is totally unlike any eyes I have seen from Mexico.

Aberrant 2 (fig. 23, no. 13). This head is from the Pavon collection. The paste is coarse and the surface only slightly smoothed. The nose is bulbous, the lips thick and everted, the eyes are half moon impressions with central round punctates. The cap or turban has a lattice made of strips of clay and is triangular in shape.

Aberrant 3 (fig. 23, no. 18). The specimen is in the Pavon collection. The paste is coarse and the surface is badly eroded. The nose and lips are broken. However, the nature of the break on the face suggests that the nose may have been triangular. Eyes were made placing a central round punctate inside the impressions made by two triangular impressions with overlapping bases.

In cross-section the back of the head is flat, while the front is thin at the top, gradually thickening toward the chin.

The cap is crescentic and bears incisions radiating out from the face.

This one is similar to ones illustrated by Ricketson (pl. 73, 6) from the Mamom phase of Uaxactun.[71] From Middle Tres Zapotes a number of specimens that Weiant calls "a Uaxactun type" (pl. 16, 1 and 2) are even more similar; even the paste appears to be comparable.[72]

Aberrant 4. This head is in the Pavon collection. It is small, has a coarse paste and is badly worn. Each eye is made by placing two punctates into a small fillet of clay (coffee bean eye). The nostrils of the nose are indicated, while the mouth is composed of three punctates.

The eye, nose and mouth are similar to those on Type C figurines in the Valley of Mexico[73] (fig. 23, no. 22).

Aberrant 5 (fig. 23, no. 23). This one from Pavon collection has coarse paste and white paint on its smooth surface. The nose is roughly triangular and the mouth seems to have been only a slit in the clay. Lips, if they occurred, have been eroded away. The eyes are badly worn but seem to have been two oblique grooves pointing toward a central round perforation. A lock of hair, indicated by a glob of clay bearing striations, extends down onto the forehead. The hair also extends down the side of the head in a Dutch or page-boy bob.

It is quite similar in eyes, head form, nose, and hair to Type C of Lower Tres Zapotes.[74] Unfortunately the head is from the Pavon collection and its temporal provenance at Panuco is not definitely known, though it might be of the Aguilar or Chila Period.

Figurine Limbs and Bodies

Seventy-two limb and body fragments were found in the excavations. Two body fragments came from the Pavon Period levels (level 21); twelve body and ten limb fragments came from the Ponce Period levels; eight body fragments and twenty-seven limb fragments came from the Aguilar Period while four body frag-

[68] Drucker, 1943*b*.
[69] Ekholm, 1944.
[70] *Ibid.*
[71] Ricketson, 1937.
[72] Weiant, 1943.
[73] Vaillant, 1930.
[74] Drucker, 1943*a*: pl. 26c.

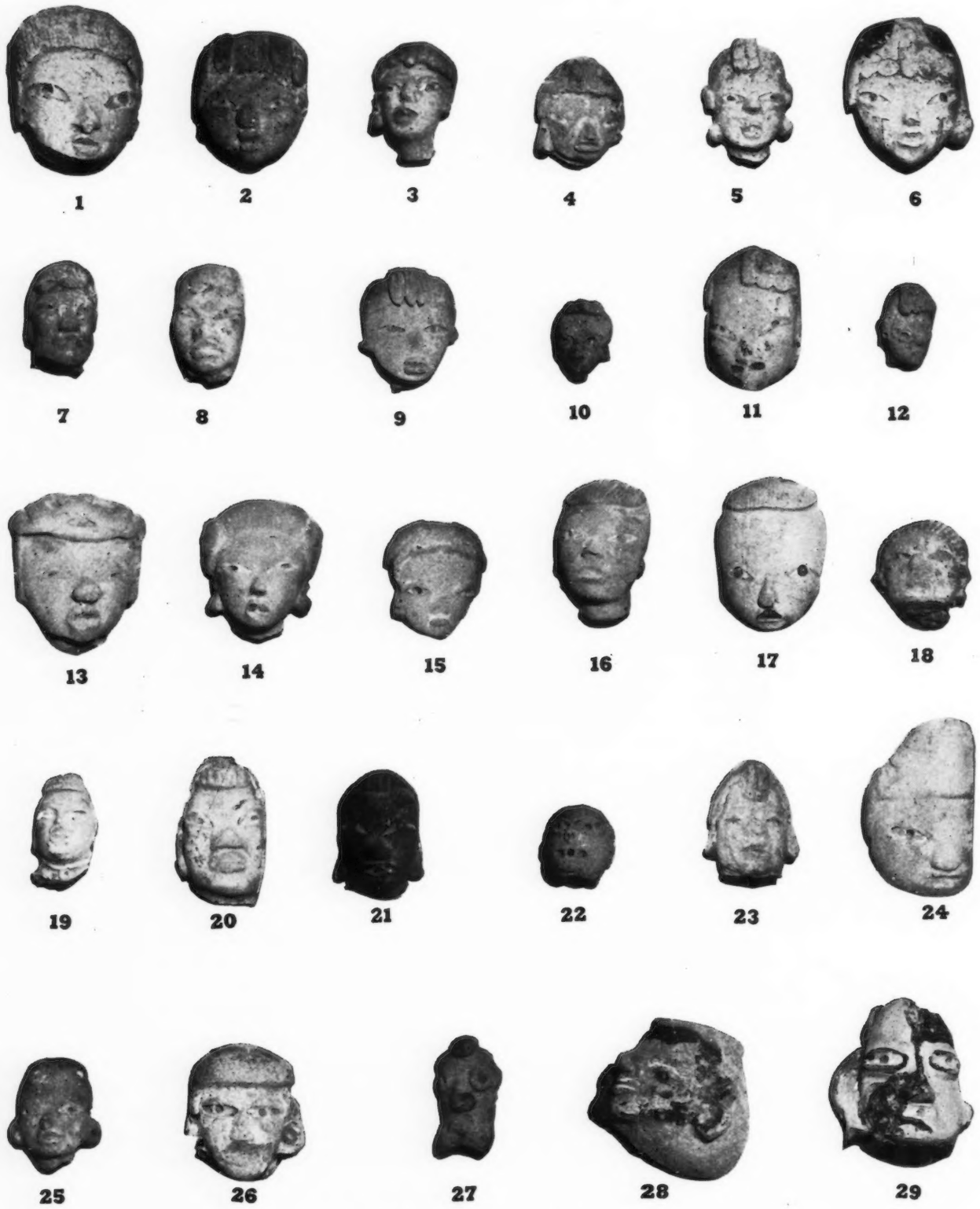


FIG. 23 (½ natural size).

ments and nine limb fragments came from the Chila Period deposits.

Generally speaking, few changes can be seen. One general change is that there appears to be a definite decrease in body size from early to late that somewhat parallels the changes in head size. Generally speaking, however, early heads are larger in proportion to bodies. With one possible exception, all body pieces are of females and are unclothed. Figures are wasp-wasted, have bulging hips, rather box-like chests and squared shoulders, and small, poorly-defined breasts low on the chests. Navels are usually marked by a punctate. Most bodies are solid, but two legs which are hollow and obviously attached to hollow bodies indicate that probably a very few bodies were hollow. The bodies do not differ significantly from other body fragments of the El Prisco Period nor from other early horizons in Meso-America. There are four exceptions to this body form. One came from level 21, the Pavon Period, and is a chest fragment. It is squared, painted with asphalt, without breasts or a wasp-waist, and bears four or five elliptical, vertical, small appliqués of clay on the body spaced at random. Both Weiant [75] and Drucker illustrate similar bodies from southern Vera Cruz and it may be considered to be a definite Lower Tres Zapotes trait.[76] Another exceptional piece comes from level 20. This may be a fragment of the body of an animal (see fig. 22, no. 4). It has two bowed legs and a bowed third leg or large tail. The belly is round and the chest and shoulders narrow. Two prominent breasts are on the chest and two small nobs (possibly breasts) are on the lower belly. The body of the figurine is hollow and has black asphalt paint on the back, legs, and shoulders. Drucker notes that some figurine bodies from Tres Zapotes have a tripod support.[77] The other two exceptions came from level 3. Both have short stubby cylindrical legs with four incisions at their tips, evidently to represent toes. The hips are narrow and about the same width as the waist and thighs. The buttocks are, however, prominent and the navel and vagina are marked.

[75] Weiant, 1943: pl. 35, no. 4 and 6.
[76] Drucker, 1943*a*: pl. 36*j*.
[77] Drucker, 1943*a*: 81.

FIG. 23.

1–10. Scalloped-edge cap type, from the Pavon collection.
11–12. Coarse paste type. Pavon collection.
13. Aberrant type.
13–15. Small plain crescentic cap type.
16–17. Crew cut type.
18. Aberrant type.
19–21. Hair-knot negroid type.
22. Aberrant type.
23. Aberrant type.
24–26. Small plain crescentic cap type.
27. Small bird figurine.
28–29. Small effigy jars.

Arms are, for the most part, short and conical; four long cylindrical curved fragments from Aguilar levels, and one from the Ponce levels, are either arms or loop handles of a pot.

The legs and feet differ somewhat from those previously described for the Huasteca. The thighs are usually round and full, but the lower leg is distinguished from them by a shallow groove encircling the leg at about the knee. Often the grooves are filled with asphalt paint. This type of leg is but rarely found in Chila and the later periods at Panuco. This groove is found occasionally on the legs of Types C and D in the Valley of Mexico, and in the Maya area at Uaxactun in the Mamom Period it appears to be fairly common. Specimen of feet are not common in the Ponce Period. If represented at all, it is by a slight bend in the tapering conical lower leg. In the Aguilar levels a few specimens have boot-like feet and one has toes marked on it. Another type of leg, with the large buttocked type of body, has been previously described.

The general stance of all bodies appears to have been a standing position with legs slightly apart and arms extended. One seated figure with legs spread was found in level 8.

Conclusions

The figurine data speak strongly for a connection between the Mamom Period of Uaxactun and the Ponce Period of Panuco. The eye types, particularly that one with a large punctate inside an elliptical groove, the thick everted lips, the scalloped-edged headdress, the puffed or blowing-cheek figurine, the general features of the prognathic elliptical-eyed type, and the grooves around the legs of the figurines are but a few of the similarities between specimens of the two areas. Actually, no identical heads, since paste and surface finishes are very slightly different, are found, but the many resemblances mentioned above indicate a genetic relationship. Certainly the Ponce figurines are more similar to those of Mamom (and the "Archaic" of the Maya Lowlands and Guatemala Highlands) than they are to those from Tres Zapotes, Monte Alban, or the Valley of Mexico. The Aguilar Period heads show less resemblance to the Maya area and only slight resemblance to the southern Vera Cruz area. The pseudo baby-face figurine and some figurines from the Pavon collection are generally similar to those from the early part of Middle Tres Zapotes, though the resemblance is not as striking or as great as that of the Ponce figurines to those in the Maya area.

With the exception of the similarities of the earliest types to those in the Maya area, the modelled figurines from Panuco are rather distinctive and appear to represent a strong local tradition with only minor external relationships. Perhaps when our samples of figurines are larger, more external relationships and chronological links may be found, but at present they

FIG. 24 (½ natural size).

are few and the sample of materials found in stratigraphic position is very inadequate.

ANIMAL FIGURINES

In level 18 a small seated "monkey" figurine was found (fig. 22, no. 3). The figure is very crude, with cone-shaped body, no legs, a long arm reaching down to the stomach (the second arm is missing), and a tail reaching around from the back and resting on the arm. The face was made by a placing a hemispherical bit of clay near the apex of the cone, with two punctates for eyes. Broken surfaces at the edge of the head indicate that ears may have been present. It was painted black.

The second specimen is from level 17 and is only the snout of some animal. The snout is a truncated cone with two nostrils punched in the upper portion of one end and a semi-lunar mouth cut on the opposite side just under the snout.

The final figurine was probably a rattle as the body is hollow (fig. 22, no. 2). It has three short conical legs, two triangular protrusions from the globular body representing arms (or wings) and the chest is pierced by two holes, possibly representing breasts. The neck tapers from the body into a globular protrusion which is capped by an elliptical appliqué of clay and has two doughnut-shaped appliqués on the side of the head (ears or ear plugs?). The face is missing but probably protruded. It is painted black and came from level 9. I not only do not know of any similar effigies but I do not even know what animal this one was meant to represent.

In level 6 a head with a long pointed beak and a round punched eye was found. This may have been part of a whistle.

In the Pavon collection there is a small bird head. The eyes are doughnut-shaped appliqués of clay. The beak is broken but seems to have been a short conical appliqué of clay, while on top of the head is a spherical appliqué of clay resembling a hair knot.

FIG. 24.

1. Potsherd disc.
2. Spindle whorl(?) from level 2, probably intrusive.
3. Pierced potsherd disc.
4. Cross-section of large-clay bead.
5. Large clay bead.
6. Solid clay ball.
7. Small clay bead.
8. Small solid clay ball.

9–13. Figurine arms.

14. Large hollow clay ball.

15–19. Figurine legs.

20–23. Figurine chests.

24. Figurine chest with vertical elliptical appliqués on body painted black with asphalt paint, from level 21.
25. Late type figurine body, from level 3.
26. Early type figurine body, from level 20.

SMALL EFFIGY VESSELS

In the Pavon collection are two very small (2 inches high) effigy jars (fig. 23, no. 28, 29). Each of them has a modelled human face on one side with chin, lips, nose, and ear plugs represented by appliqués, while the eyes are elliptical impressions bearing central punctates.

Similar small effigy jars have been found in the early levels of Uaxactun.

WHISTLES

One whole bird effigy whistle was found in level 3, Chila Period (fig. 22, no. 1). The chamber of the whistle is cylindrical (about an inch in diameter) with a short, sharp, tapering whistle mouth about ⅔ inch in diameter. This portion evidently represents the body of a bird. Two short conical feet extend down from the front of it and on the opposite side a short thick neck extends upward. The head is round with a comb on top and long straight beak. One stop valve is on the side near the front of the body, while the remains of a small centered loop handle is on the top of the back.

A fragment of a bird head, found in level 9 of Aguilar times, may have been part of a whistle. In levels 19 and 20, Ponce Period, two small fragments of the globular bodies of whistles were found with a single stop hole on each. The fragment from level 19 has the broken portion of a small loop handle. Both have asphalt paint on them.

Effigy bird whistles are common in early horizons in Meso America. However, bird whistles with small loop handles seem to appear only in Mamom of Uaxactun,[78] Lower Tres Zapotes of southern Vera Cruz [79] and the early periods at Panuco. These rather complex objects certainly seem to indicate a connection between the three areas in early Formative times.

CLAY BALLS, CLAY BEADS, AND DISCS

A few solid clay balls were found at various levels of the Ponce and Aguilar Periods, though they are relatively rare in the Chila Period. They do not occur in the Pavon Period. They range in size from ⅔ inch to 1 inch in diameter and average about ¾ inch.

They are solid, smoothed externally, poorly fired, and a few have white paint on them. They may have been used for gaming or as missiles in blow guns or slings (fig. 24, no. 6, 8).

Frequent in the Ponce levels and appearing in the lower levels of the Aguilar Period, as well as one fragment in an upper level of the Pavon Period, are hollow clay balls. These hollow clay balls range from one to two inches in diameter. They have the paste of Progreso White and their walls are about ⅛ to ¼ inch thick. Their surfaces are smooth and many bear the remains of a white wash or thin white slip. Usually

[78] Ricketson, 1937: 215.
[79] Drucker, 1943*a*: 81.

FIG. 25.

two small holes pierce the outer surface on opposite sides. Two whole specimens had small poorly fired clay pellets in their interior. These may have functioned as beads or rattles, or possibly as ear ornaments (see fig. 24, no. 14).

From levels 16 and 18 of the Ponce Period, one fragment from each level consisted of clay balls two to three inches in diameter with Progreso White paste and surface finish. These fragments bore numerous holes about ¼ inch in diameter and ¾ inch apart all over their surfaces. I suspect they were rattles, though my workmen referred to them as sieves. They were found also in the El Prisco and Las Flores periods.

Confined almost entirely to the Aguilar Period levels are spherical clay beads. Their paste is like that of Heavy Buff and their surfaces smooth and painted white. They range in size from ¼ inch to 1 inch in diameter and average about ⅗ inch. They are solid except for a hole running through them. These certainly may have functioned as beads for necklaces and they also probably were used as ear ornaments, since figurines of this period have spherical ornaments at the ears (fig. 23, no. 4, 5, 7).

Clay discs ground from potsherds, whether pierced or unpierced, were found mainly in the Aguilar and Chila Period levels, though one did occur in Ponce levels. The sherds ground into discs are usually sherds of Progreso White or Aguilar Gray (fig. 24, no. 1, 3).

From level 2 of the Chila Period one fragment of a spindle whorl was found (fig. 24, no. 2). It has the paste and color of Aguilar Gray. It is about an inch in diameter and consists of two disc-shaped parts set one on the other. One disc is about ½ inch in diameter while the other, with bevelled edges, is about 1 inch in diameter. The center of the whorl is pierced by a hole ¼ inch in diameter. On the outer surface of the larger disc is a single incised line around the edge. As Ekholm has noted, spindle whorls are most popular in the Las Flores Period (Period V).[80] However, he did find one in the lower levels of Excavation 3 at Tancol associated with the Tancol complex. One might suspect that the spindle whorl in level 2 of VC-2 was somehow intrusive from the mixed level 1, except that its paste and surface are like that of Aguilar Gray.

FIG. 25.

Prognathic elliptical eyed type with a skull cap

1. Figurine from Ulua River Valley Honduras, probably Playa de los Muertos culture in collections of Peabody Museum of Harvard C/10 g 80.
2. Ponce Period figurine from VC-2 excavations at Panuco, Vera Cruz, Mexico.

Prognathic elliptical eyed type with a conical cap (?)

3. Figurine from Kaminaljuyu, Guatemala City, Guatemala, in collections of Peabody Museum of Harvard (36–35–20)/4719.
4. Ponce Period figurine from VC-2 excavations at Panuco, Vera Cruz, Mexico.

Scalloped cap type with double hair braids on top of the head.

5. Aguilar Period figurine from VC-2 excavations at Panuco, Vera Cruz, Mexico.
6. Figurine from Kaminaljuyu, Guatemala City, Guatemala, in collections of Peabody Museum of Harvard (48–30–20)/17888.
7. Figurine from Panuco, Vera Cruz, Mexico, in the collections of Roberto Pavon that may belong to the Aguilar or Chila periods.

Plain crescentic cap type with a bifurcated cap and projecting pierced eyeballs.

8. Ponce Period figurine from VC-2 excavations at Panuco, Vera Cruz, Mexico.
9. Drawing of figurine from Benque Viejo Ia in collection of Peabody Museum of Harvard.

Scalloped cap type with a cap composed of overlapping leaves.

10. Figurine from Kaminaljuyu, Guatemala City, Guatemala, in the collections of the Peabody Museum of Harvard, (48–30–20)/17889.
11. Figurine from Panuco, Vera Cruz, Mexico, in the collections of Roberto Pavon—Aguilar or Ponce Period.
12. Figurine from Kaminaljuyu, Guatemala City, Guatemala, in the collections of the Peabody Museum of Harvard C/10790. Note earballs instead of earplugs.
13. Ponce Period figurine from excavation VC-2, Panuco, Vera Cruz, Mexico. Note ear balls a common feature in figurine of this type at Panuco.

ARCHITECTURAL FEATURES

One clay toy or model from Pavon's collections tells much concerning the everyday architecture of the people of the early periods (see fig. 27). The stratigraphic provenience of this object is not known, but the paste and surface finish are those of the Progreso White pottery type and I think it can be fairly safely assigned to the Ponce or Aguilar Period.

The object is a small clay model of a house about four inches long, 1½ inches wide and 3½ inches high. The floor plan of the house is apsidal with a door in one of the longer sides. The walls of the house are vertical, smoothed, and painted white. At the apex of the roof there is depicted a long pole, which at either end fits into forked poles (evidently roof supports or pillars coming from within the house). Brushing or scratching on the surface of the roof radiates out from this exterior ridge pole and evidently is meant to depict thatch or grass. This roof overhangs the walls. Thus it would appear that the apsidal thatched roofed house with an external ridge pole and forked roof supports still in use among the Huastecs and common in the Huasteca has a long history that extends back to the Ponce or Aguilar Period. It is important to note that the structure A. L. Smith unearthed and restored from under structure AV-1 at Uaxactun (Mamom Period) is almost identical with the one described above.[81]

Excavation of architectural features appears to confirm the occurrence of this type of house, for extending down from level 3 or 4 of the Chila Period were four

[80] Ekholm, 1944.

[81] A. L. Smith, 1950: fig. 10 and p. 13, or Wauchope, 1934.

FIG. 26. Modern houses of the Huasteca.

postholes. They describe a semicircle and may well be part of the end of a round, oblong, or apsidal house like our clay model. Wattle and daub in this level, as well as on floors 1, 2, and 3, reveal the type of wall structure in use at the time (see fig. 29).

CLAY CYLINDRICAL OBJECTS

One clay fragment of a cylindrical object of heavy buff paste was found in level 20. This might be a spout of a vessel but the fragment is so small as to make exact identification impossible.

Vessel spouts are very common in the lower Tres Zapotes and Mamom phases.[82]

FIG. 27. Clay model of a house from early levels (½ natural size).

STONE, BONE, AND SHELL

CHIPPED STONE

Chipped stone artifacts from the early levels at Panuco are very rare. In level 20 the central portion of a flint blade (about ¾ inch wide) was found. This may represent part of a projectile point. One irregular flint flake fragment with retouching along one edge was found in each of the levels 21, 20, 19, and 9. They may have served as scrapers. One retouched obsidian chip from level 19 may have been an end scraper.

The distribution of obsidian and flint chips is of some interest: obsidian is absent from the Pavon Period levels, while seven flint flakes are present. However, beginning with the Ponce Period levels, obsidian chips began to outnumber the flint flakes in an increasing proportion.

GROUND STONE

Ground stone objects are not numerous and they are mostly small fragments of artifacts.

Ten fragments of metates exist. None were found in Chila levels and only one in Pavon levels. On

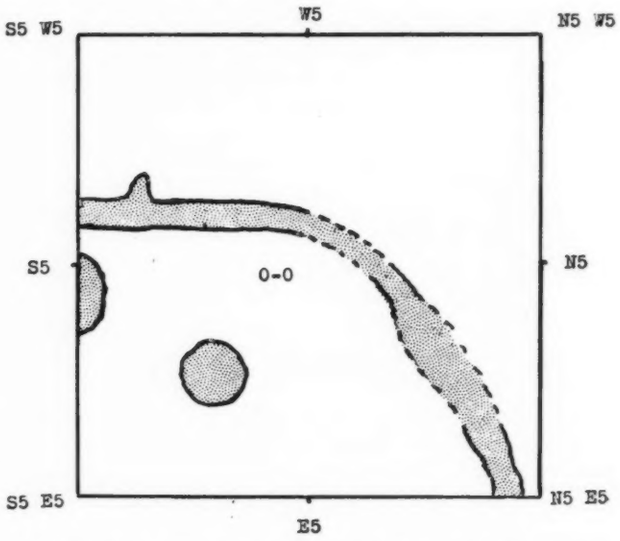


FIG. 28. Floor plan of VC-1 at a depth of 3.5 feet with features extending down from the refuse indicated by shading.

[82] Drucker, 1943*a*.

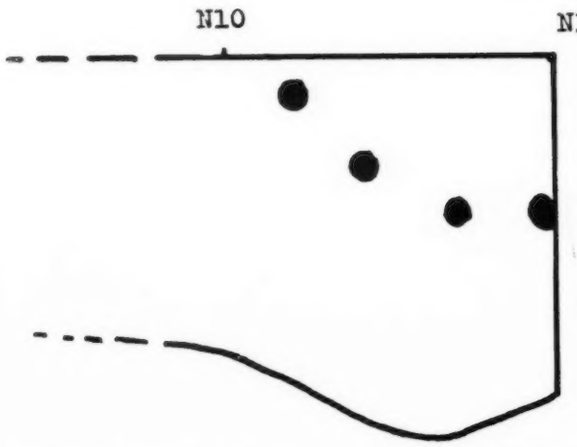


FIG. 29. Floor plan of the north end of VC-2 at a depth of 5 feet showing four postmolds which extended down from level 4.

the basis of the small fragments, the metates seem to be divisible into two general classes, those with squared edges and those with pointed or upturned edges. The specimens of the squared edged type are all made from volcanic tuff, as was one of the pointed edged type. However, some of the pointed edged class are made from granite (?). No feet were found, and all the metates have shallow troughs. The pointed edged class appear to have been semi-lunar in cross-section. One small fragment of the squared edged class indicates that at least by Aguilar times the kind with a flat trough and a short upsloping back was present. However, the majority seem to be merely flat slabs.

Fragments of manos also are present. For descriptive purposes, I have divided them into manos oblong (ovoid manos) in cross-section and round in cross-section (cylindrical?). One roughly diamond shaped in cross-section was uncovered from level 17.

One small abrading stone roughly rectangular and diamond shaped in cross-section was found in level 17.

BONE

No bone artifacts were found in the refuse though many bone fragments were unearthed.

SHELL

One small freshwater mollusk shell has a perforation at its fulcrum and may represent a pendant. It has red paint on its inner surface. It was found in level 9, Aguilar Period.

Shells were found in every level and a representative sample was kept for identification. Generally speaking, salt water mollusks were most popular in the Pavon Period, but gradually gave way to freshwater forms in the upper levels.

III. A REPORT ON VC–1

EXCAVATION TECHNIQUE

VC-1 was the first "dig" of the 1948 season in the region north of Panuco. It was originally undertaken in the belief and hope that a test trench would uncover a thick deposit of refuse (like that to be observed at the river bank 80 feet to the east) with relative ease and less danger than excavation along the bank. It turned out to be rather disappointing as refuse only went to a depth of about 3½ feet, and by 4 feet artifacts had disappeared.

In undertaking this excavation a 10-foot block of four 5-foot squares was set up by use of a surveying instrument. The east edges of the square were set parallel

CHART 6

DISTRIBUTION OF CLAY OBJECTS AT THE LEVELS OF VC-2

Levels	Bird Effigy Whistle	Solid Clay Ball	Spherical Solid Clay Bead	Hollow Clay Ball	Pot-sherd Disc	Pierced Potsherd Disc	Spindle Whorl	Clay Spout
1						1		
2						2	1	
3	1	1			1	1		
4			1		1	1		
5		1	1		2	1		
6		1	2		2			
7		1	2		2	1		
8			1	1				
9	1?	2	8	3	1	1		
10		3	8	6				
11		1	3	1				
12			1	1				
13		1	1	1				
14				2	1			
15								
16	1?	1		1				
17	1?	1		3				
18	1?			1				
19				8				
20		3		7				1
21				1				
22								

CHART 7

DISTRIBUTION OF STONE AND SHELL ARTIFACTS AT THE LEVELS OF VC-2

Levels	Projectile Point (fragment)	Flake Scrapers (flint)	Flake End Scraper (obsidian)	Flint Chips	Obsidian Chips	Squared-edged Metates	Pointed-edged Metates	Manos, Ovoid or Oblong in Cross-section	Manos, Cylindrical-round in Cross-section	Manos, Diamond in Cross-section	Abrading Stone	Shell Pendant
1												
2				1	5							
3				3	4							
4				3	8							
5				2	3	2		1				
6				1	6							
7				2	2							
8				1	2							
9		1		5	27	1			1	1	1	1
10				7	38	1	1					
11				2	4							
12					2							
13				1	4	1						
14				3	6							
15					4							
16				1	3	1	1		1			
17				4	2			1	2	1		
18	1			2	4							
19		1	1	1	9	1						
20		1		8	7	1						
21		1		2		1						
22				5				1				

with magnetic north and south so all square edges were parallel to compass coordinates. The stake in the exact center of the large square was called 0–0, the stake 5 feet directly east was called east five (E5), the stake 5 feet directly north was called north five (N5) etc. The stakes in the corners of the square were called north five east five (N5E5), south five east five (S5E5), south five west five (S5W5), and north five west five (N5W5). The squares were given the name of the stake in the southeast corner; thus the square encompassed by the stakes 0–0, E5, S5E5, and S5 was called square S5E5.

Excavation began in two diagonally opposite squares (0–0 and square S5E5). These squares were stripped off in arbitrary 6-inch layers down to sterile soil at a depth of 4 feet. Soil profiles were then drawn on the sides of the squares thus far excavated. When the first two 5-foot squares were completed it was possible to observe the soil profiles of two sides of each of the remaining two 5-foot squares (S5 and E5) of the 10-foot block. Therefore, in excavating these two squares it was decided to strip off the natural levels. The first three layers were arbitrary 6-inch strips but the fourth went only to the top of the undisturbed dark refuse. The next layer was taken down to a depth of 2½ feet and the remaining two layers were arbitrary 6-inch levels in the undisturbed refuse. At a depth of 4 feet the floor of the whole 10-foot square was cleaned

off in order to observe the post molds or any features extending down from the refuse. The four walls of the square were photographed and profiles drawn. Since there was a vague chance that this upper refuse might be separated from deeper refuse by a layer of sterile sandy soil, it was decided to continue excavation to a depth of 10 feet in one square (E5). Since no more artifacts were found between the depths of 4 feet and 10 feet in the test square the site was abandoned and filled after the photographing and drawing of profiles.

STRATIGRAPHY

The stratigraphy of VC-1 was relatively simple and correlated rather well with part of the nearby VC-2. The top one-foot of the excavation was composed of waterlaid sands interspersed by a thin layer of asphalt (modern house floor) and two thin, fairly well marked humus layers. Underlying these deposits was a stratum of loose brown sand, loam, and refuse. This stratum was evidently a redeposition by water action, since the artifacts of a number of different periods were badly water worn and the soil was very sandy. The sand stratum and redeposited brown sand were almost identical with Zone A of VC-2 in cultural content, order of strata, and type of soil, and I believe that they are part of the same stratum. Level 1 comprised Zone A.

Underlying Zone A was a 1 to 1½ foot stratum of refuse. This stratum is evidently a layer deposited by occupation of the site by aborigines. Level 2 was composed of the layer from the top of this refuse to a depth of 2½ feet, or from a depth of 2 feet to 2½ feet. Level 3 is from 2½ feet to 3 feet, while level 4 is the lower part of this stratum from 3 to 3½ feet and includes two refuse pits and a (wall?) trench. This stratum is called Zone B and in part seems to be connected with Zone B of VC-2.

Three features extended down from Zone B and could be seen on the cleaned-off floor at a depth of 4 feet. The first feature was a large pit about 2½ feet in diameter at its top, which was under Stake S5. The second was a small pit in the center of square S5ES, about 1½ feet in diameter. The third feature is perhaps more difficult to interpret. It was a shallow trench about 3 to 8 inches deep and about 6 inches wide. It ran from 1 foot west of Stake S5 in a more or less straight line to 1 foot west of Stake 0–0. At this point it was less distinct but appeared to curve eastward and strike the east wall about 6 inches south of Stake N5E5. It was similar in appearance to wall trenches one finds in Middle Mississippi villages in the southeastern United States. However, excavation of the trench revealed no post molds or excessive amount of charcoal in the trench. Therefore, whether this represents a wall trench of an apsidal house or merely a small trench for drainage or for some other purpose cannot be stated on the evidence found in this excavation. Its compactness and horizontality preclude the possibility of its being a rodent hole.

Below Zone B and the features were 7 feet of sand. The top foot or so of this sand was filled with caliche and relatively loose in texture, giving the appearance of having been weathered and eroded. However, below this top foot the caliche gradually disappeared and the sand became rapidly more compact. No artifacts were found in this stratum. The cultural sterility, the loose eroded surface, and the hardness and compactness of the sand make it very similar to the top portion of Zone C in the trench VC-2. Tentatively it is called Zone C and is thought to represent the post-occupational section of that strata. Needless to say, the finding of this zone was exceedingly disappointing in the light of the original purpose for digging this site.

CERAMICS

The pottery was washed and catalogued by two of the workers and my wife while the final test hole into the sterile sands was being completed.

Analysis of this pottery was not undertaken until after the completion of the more detailed analysis of VC-2. The analysis consisted of classifying the pottery into the types established by a study of VC-2 sherds. No new types of pottery were found, though one significant variant of Aguilar Red was found that became the sub-type Aguilar Red, Linear Punctate.

The next step in the analysis was the temporal correlation of the VC-1 materials with those of VC-2. This was done by working out the percentages of the various pottery types at each level and comparing them with the percentages of those from the levels of VC-2. It was assumed that those levels having the same percentages or nearly the same percentages of pottery types and sub-types and ceramic features were contemporaneous. In addition, the percentages of the different kinds or patterns of decoration and the various rim forms were worked out. With these three sets of percentages for each level, as well as with the general ceramic changes through the three levels at VC-1, it was possible to correlate the three levels of VC-1 with levels 2, 3, 4, and 5 of the VC-2 excavation (see fig. 11).

Next, an attempt was made to correlate VC-1 and levels 2–5 of VC-2 with the earliest levels (18 and 19) of Ekholm's excavations at the Pavon site.[83] Percentile comparisons of types were not too satisfactory, as the small amount of sherds (other than Heavy Plain) at the Pavon site did not justify Ekholm's classifying his pottery into as fine divisions as I had done on the basis of the abundant sherds at VC-2. Therefore, I shall only briefly compare the types but shall emphasize the comparison of the ceramic features of the types.

The dominant type in levels 18 and 19 of the Pavon

[83] Ekholm, 1944: 342–344, fig. 4.

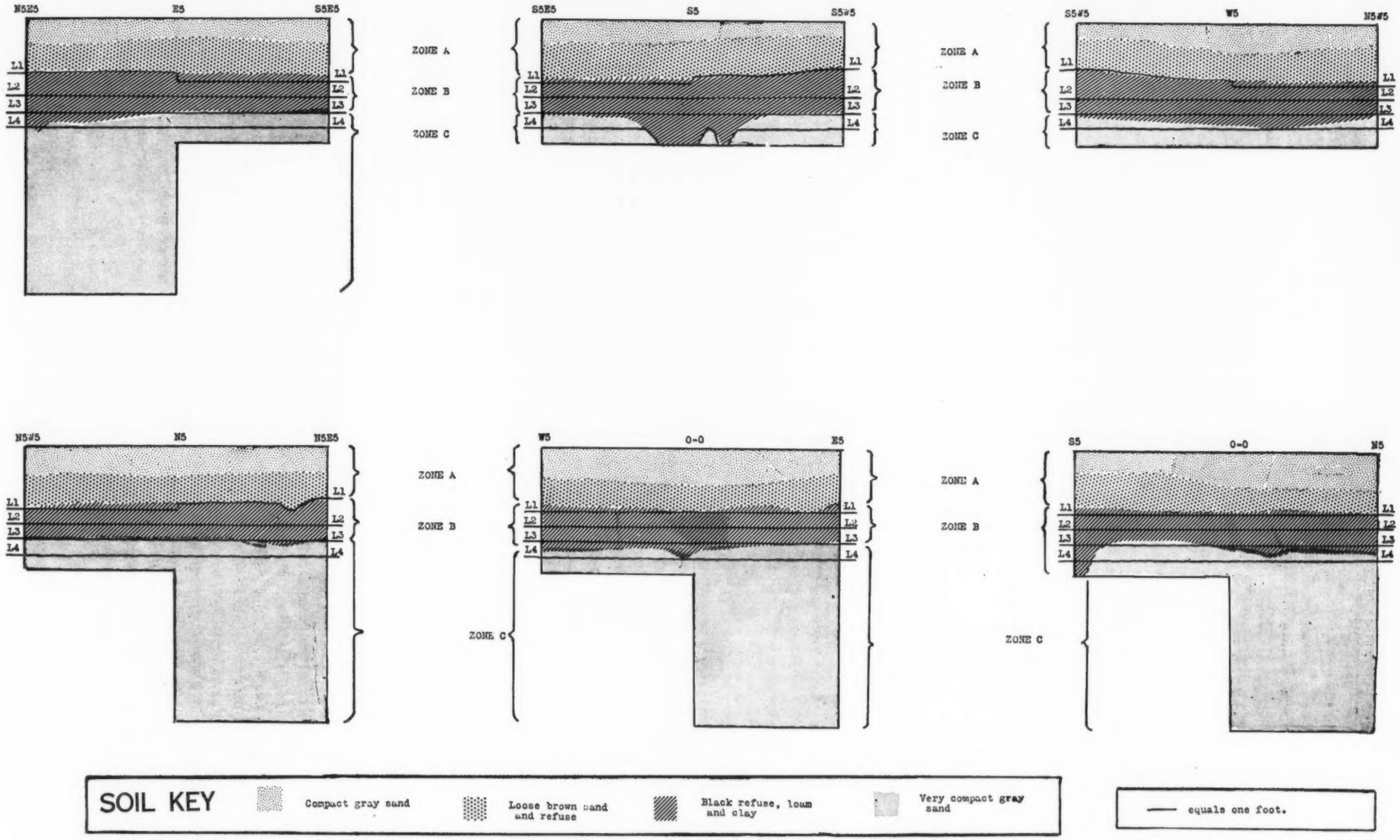


FIG. 30. From left to right at the top of the illustration are profile drawings of the east, south, and west sides of the test square at VC-1, while from left to right at the bottom are profile drawings of the north side and sections across the center from west to east and from south to north. The strata are indicated by soil symbols explained in the Soil Key. Levels are indicated by horizontal black lines. Zones are noted in the spaces between the profile drawings. At the top of the profile drawings are the stake numbers.

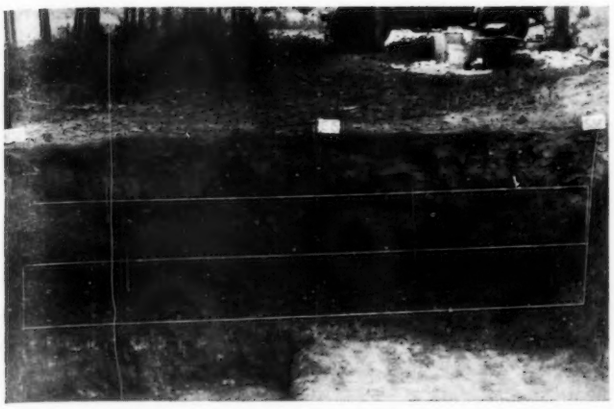


FIG. 31. South wall of square VC-1 showing pit 1 and on the floor the narrow trench and pit 2. One-foot levels marked by white string.

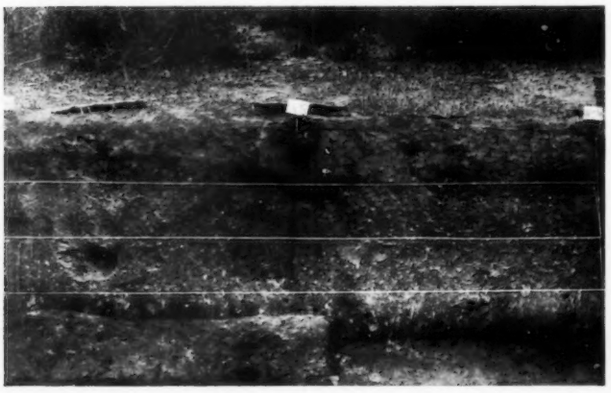


FIG. 32. North wall of square VC-1. One-foot levels marked by white string.

site, levels 2–3 of VC-2 and levels 2–4 of VC-1 is Heavy Plain. The surface of Heavy Plain from the levels of the three sites mentioned above is usually plain, though some specimens have been scratched or scoured, while a few bear the remnants of a red wash. Rim sherds appear to be almost identical, with thickened lipped, outflaring rims being dominant at all three sites (see fig. 17, no. 53, 54, 63, 64). There is a general tendency for the neck to be at an angle to the body, though some necks slope gradually into the body at all three sites. Appliquéd ridges appear at VC-2 only in levels 2–5, one ridge appears in level 3 at VC-1, and one appears in level 18 at the Pavon site. Loop and strap handles occur in the levels of the three sites under consideration. One fragment of a double loop was found in level 5 at VC-2, while these do not appear until level 15 at the Pavon site.

The second most common ware at all three sites is white ware (Chila White and Progreso White types). At the Pavon site the white ware was not divided into two types, since the stratigraphy did not justify it, and all of it was considered by Ekholm to be the heavy tempered variety, i.e., Chila White. Actually, some of the finer tempered variety (Progreso White) was found. White ware decorations at all three sites are predominantly linear punches. However, a combed decorated sherd was found in level 19 at the Pavon site (30.2–7626*a* cat. no. of Am. Mus. of Nat. Hist.), and combed decorated sherds appear in level 3 of VC-2. Perhaps they also appear at VC-1 in Chila White, but I found no sherds large enough to display this technique clearly, if present. A few incised sherds appeared at each of the three sites. Vessel shapes at all three sites are very similar, with the predominant vessel forms being outflaring-sided composite silhouette bowls, and vertical incurved-sided thickened lip bowls. Short solid conical, long solid conical, and effigy animal feet appear at each site in these levels under consideration.

All other pottery types are minority wares. Finer plainware is at all three sites. Aguilar Red is at levels 2–4 of VC-1 and levels 2–5 of VC-2, and I believe that some of the red ware of levels 18 and 19 at the Pavon site are of this type. However, the sub-type Aguilar Red, Linear Punch does not seem to be present at the latter site. Ponce Black is a minority ware at VC-1 and levels 2–5 of VC-2. The two sherds of dull black ware

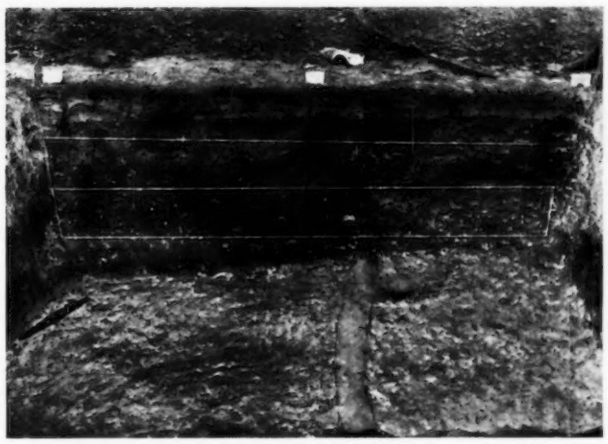


FIG. 33. East wall of VC-1. One-foot levels marked by white string.

FIG. 34. West wall of VC-1. One-foot levels marked by white string.

from levels 18 and 19 of the Pavon site are, I believe, Ponce Black. The vessel shape (fig. 17, no. 16) certainly seems similar to that of the late Black ware. Of the late VC-1 and VC-2 types, only Aguilar Gray is absent at the Pavon site. Panuco Gray and El Prisco Black, absent from VC-1 and VC-2 in the undisturbed levels, were present in level 18 of the Pavon site.

Generally speaking, from the general trends of pottery types at VC-1 and VC-2, and from the absence of Aguilar Gray at the Pavon site, and the lack of El Prisco Black and Panuco Gray at VC-1 and VC-2 (and level 19 of the Pavon site), I feel inclined to say that all levels, except levels 2, of VC-1 and VC-2 are earlier than those at the Pavon site. However, levels 2 of VC-1 and VC-2 and level 19 of the Pavon site seem to be of the same time period. Thus much of the materials I have classified as Chila Period would best be called early Chila Period, while levels 2 of VC-1 and VC-2 and levels 18 and 19 of the Pavon site would be late Chila Period.

CHILA PERIOD

As stated previously, all the pottery from the three lower levels at VC-1 belongs to the Chila Period. The number of sherds found are not numerous, being 1,086 only. Many of these sherds are badly worn and leached. There were 169 so badly disfigured as to defy classification.

Progreso Metallic

Only one small body sherd was discovered in level 4. In all its features it is identical to those from VC-2, previously described.

Progreso White

The paste and surface finish are the same as previously described.

The decoration is about the same as at VC-2 in the Chila Period. There are, however, some minor differences. These are perhaps due to the meagerness of the sample at VC-1. The decorative motifs composing the sub-types Hub and Spoke and Opposed Area, present in small amounts in the Chila Period levels at VC-2, are entirely absent at VC-1. However, the distinctive designs of the Chila Period at VC-2, present on the sub-types Incised Curvilinear and Linear Punctate, are also present at VC-1.

Vessel shapes at VC-1 are about the same as those in the Chila Period levels at VC-2. Outsloping, straight-sided bowls are dominant over outflaring rim bowls, while vertical incurved-sided bowls and incurved rim bowls occur.

Vessel feet are about the same.

Generally speaking, the proportion of Progreso White at all levels of VC-1 fits the proportion of Progreso White at VC-2 in levels 4 and 5.

Ponce Black

Paste, surface finish and decoration are about the same as at VC-2. Vessel shapes are slightly different in that while two sherds of outsloping straight-sided bowls appear at each site, the incurved bowls present at VC-2 are absent at VC-1. However, again the sample from both sites is small. The percentages of black ware sherds by level at VC-1 are between those from levels 3 and 4 at VC-2. In both sites Ponce Black of the Chila Period is a minority ware.

Aguilar Red

Paste and surface finish are about the same as previously described. However, decorated sherds of Aguilar Red are much more numerous at VC-1 than at VC-2. Thirty sherds with parallel linear punches sub-type Linear Punch were at VC-1 while only four were at VC-2. A few sherds with cross-hatching in conjunction with parallel lines were found at both sites. However, at VC-1 eleven sherds with parallel incisions were found while none were found in the Chila Period levels at VC-2.

The same three vessel forms were found at VC-1 and VC-2. However, at VC-1 outsloping straight-sided bowls were dominant over flaring-sided and incurved rim bowls, while at VC-2 flaring-sided bowls were dominant.

Chila White

The paste and surface finish of this type at VC-1 are the same as at VC-2. The dominant decoration is composed of parallel lines of linear punches. A few sherds have linear punches in conjunction with wavy bands of incised parallel lines. Less common are incised cross-hatched lines, curved parallel lines (perhaps combed), and incised straight parallel lines. Vessel shapes are predominantly outsloping straight-sided and flaring-sided convex bottomed bowls. Appearing less frequently are incurved rim bowls and vertical sided bowls with a thickened lip. Vessel feet are fairly numerous, with short solid conical and long solid conical appearing in equal amounts. One hollow foot with a foot-like projection with the toes marked by incised lines was found. This conceivably could be a leg from a seated figurine, but I rather believe it is a tripod support of a bowl.

Generally speaking, the Chila White complex and all its features are the same as found at VC-2 and in levels 18 and 19 in Ekholm's excavations of the Pavon site at Panuco. As I have mentioned before, some of the sherds I have included in the Chila White type have a thin wash, which is very rare in Ekholm's Chila

CHART 8

FREQUENCIES OF POTTERY TYPES AT THE VARIOUS LEVELS OF VC-1 EXPRESSED IN PERCENTAGES

Levels	Progreso Metallic	Progreso White undifferentiated	Ponce Black	Aguilar Red	Aguilar Gray	Progreso White, sub-type Incised Curvilinear	Progreso White, sub-type Linear Punch	Chila White	Finer Plainware	Aguilar Red, sub-type Linear Punch	El Prisco Black	Zaquil Red	Tancol Brown-on-Buff	Huasteca Black on White	Spanish Glaze	Totals used in computing the percentages of types	Heavy Plain	Unidentified	Totals
1				1				6			2	1	2	4	32	48	40	125	213
2		.32 52	.05 7	.11 18	.08 13	.00 1	.02 3	.33 55	.06 11	.02 3						163	204	71	438
3		.36 62	.04 6	.07 12	.07 14		.01 2	.27 46	.03 5	.13 23						170	174	66	410
4	.01 1	.42 44	.04 4	.18 19	.04 5	.01 1	.02 2	.31 33	.01 2	.03 4						115	91	32	238
																		Grand Total	1,299

materials. This may be due in part to the fact that many of my sherds from both VC-1 and VC-2 have been worn and look slightly eroded.

Aguilar Gray

The paste and surface have been previously described. Sherds of Aguilar Gray were less numerous in the Chila Period of VC-1 than at VC-2. No decorated sherds were found and only two rim sherds. One rim sherd is from a cylindrical necked olla with an everted lip, while the other is from a hemispherical bowl with a flattened lip.

Finer Plainware

Same as previously described. Only one rim sherd was found and it is the flattened lip of a hemispherical bowl. The exterior edge of the lip appears to have had a series of points or horizontal extensions jutting out from it.

Heavy Plain

The paste has been previously described. As in Chila Period levels at VC-2, the plain variety, often bearing striations, outnumbers those having a red slip or wash. Decoration is almost entirely absent. Most of the rim sherds are from ollas, the vertical necked variety or neck-at-angle-to-body group (53 and 64) being more popular than the flaring necked variety. One fragment of a plate and one fragment of an incurved rim bowl were uncovered. One fragment of a loop handle was found in level 3, while one fragment of a strap handle was uncovered in level 2. One sherd (level 3) has a small appliquéd ridge on it.

Aberrant Sherds

One aberrant sherd is extremely thin with a white slip. It has a single vertical strip that has been cut through the paste and small punctates inside a rectangular line (see fig. 15, no. 6).

Another aberrant sherd (which I unfortunately did not take out of Mexico to be photographed) has a Chila White paste, a plain surface and is decorated by a wide, broken incised line with a dot in the broken area. The decoration is on a thickened lip which has an external horizontal protrusion. Except for the paste, this sherd from level 2 is very similar to some from the Tancol complex.[84] In fig. 36, no. 1, there is a drawing of this sherd.

Level 1

Most of the sherds from level 1 come from the lowest part of Zone A in the redeposited dark sands. A large number of the sherds were too badly eroded to identify as to type. Other sherds include 32 glazed sherds, four Huastec Black on White, two Brown on Buff, one Zaquil Red, two El Prisco Black, six Chila White, one Aguilar Red, and about 40 Heavy Plain sherds.

OBJECTS OF CLAY

FIGURINES

No figurine heads were found in excavation, but six body fragments were uncovered. Four of these are arm fragments, two being found in level 2, and two in level 3. One of the others is a booted foot from level 3.

[84] Ekholm, 1944: fig. 28.

The final fragment from level 4 is a body with legs. The chest is broad with low breasts, the waist is very narrow, the hips flaring and legs astride with knees slightly bent. The feet are represented by a slight bend near the extremities of the tapering pointed legs.

SMALL EFFIGY VESSELS

In level 4 one small part of an effigy vessel was found. It appears to have the paste of fine plainware. Parts of nose and mouth are present, both being made by appliqués of clay. The nose has a rather hooked appearance.

CLAY BALLS, BEADS, AND DISCS

Fragments of three solid clay balls were uncovered, one each from levels 2, 3, and 4. One solid, spherical, pierced clay bead was found in level 3. All appear to have been covered by white paint.

Four fragments of pierced potsherd discs were found, two occurring in level 2 and two in level 3.

STONE, BONE, AND SHELL

No chipped stone artifacts were uncovered, though flint and obsidian chips occurred at all levels.

In ground stone, only two fragments of squared-edged metates of volcanic tuff were collected from level 3.

Fragments of bone and shell occurred in all levels but no artifacts of either material occurred.

OTHER FEATURES

Also uncovered were two circular pits and a long narrow trench. These have been discussed in the section entitled Architectual Features in the chapter on VC-2. Fig. 28 illustrates them.

IV. CONCLUSIONS

SUMMARY OF THE PRE-CLASSIC PERIODS

In the following section I shall present a brief summary of the four periods I found, and a summary of the previously described El Prisco Period.[85] It should already be apparent that there is cultural continuity through my four periods, and Ekholm has already stated that he believes El Prisco to have developed from Chila remains.[86] Furthermore, the new data on the Chila Period indicate a stronger linkage between the two than had previously been discerned. Future work on Chila Period remains may make this nexus even stronger.

[85] Ekholm, 1944.

[86] *Ibid.*

CHART 9

VESSEL FORM, DECORATION, AND APPENDAGES FROM THE LEVELS OF VC-1

Level	1	2	3	4
PROGRESO WHITE				
DECORATION				
Decorative technique				
Linear punctate		3	2	2
Linear punctate and incising		1		1
Incising		2	4	4
Design				
sub-type Linear Punch				
Parallel lines of linear punctates		3	2	2
sub-type Curvilinear				
Incised wavy bands with linear punctates		1		
Incised wavy bands				1
undifferentiated as to sub-type				
Incised crosshatching		2	4	4
VESSEL SHAPE				
Outsloping straight-sided bowls				
Rim profile 1 of figure 17				2
Rim profile 2 of figure 17		3		1
Rim profile 3 of figure 17		2	4	1
Flaring sided bowls				
Rim profile 7 of figure 17		1		
Rim profile 8 of figure 17		1	1	
Rim profile 9 of figure 17			1	1
Vertical sided bowls				
Rim profile 12 of figure 17				1
Rim profile 26 of figure 17				1
Incurved rim bowls				
Rim profile 15 of figure 17			1	1
Rim profile 17 of figure 17			2	
Small ollas				
Rim profile 46 of figure 17		1	2	
Rim profile 60 of figure 17		2	2	
APPENDAGES—vessel feet				
Conical solid and short		1	1	
Conical solid and long		1	1	2
Decorated		6	6	7
Undecorated		52	58	40
Totals		58	64	47
PROGRESO METALLIC				1
PONCE BLACK				
DECORATION				
Decorative technique				
Incising		1	1	
Design				
Crosshatching		1	1	
VESSEL SHAPE				
Outsloping straight-sided bowls				
Rim profile 6 of figure 17		1	1	
Decorated		1	1	
Undecorated		6	5	4
Totals		7	6	4

CHART 9—*Continued*

Level	1	2	3	4
AGUILAR RED				
DECORATION				
Decorative technique				
Linear punctate		3	23	4
Incising		2	9	4
Design				
sub-type Linear Punch				
Parallel lines of linear punctates		3	23	4
undifferentiated				
Incised parallel lines		2	7	2
Incised crosshatched lines separated by parallel lines			2	2
VESSEL SHAPE				
Outsloping straight-sided bowls				
Rim profile 1 of figure 17		8	6	6
Rim profile 2 of figure 17		1		1
Rim profile 4 of figure 17		1	1	
Flaring sided bowls				
Rim profile 9 of figure 17		1		1
Incurved rim bowl				
Rim profile 15 of figure 17		1	1	1
APPENDAGES—vessel foot—short solid and conical			1	
Decorated		5	32	8
Undecorated	1	16	13	15
Totals	1	21	45	23
AGUILAR GRAY				
VESSEL SHAPE				
Olla				
Rim profile 53 of figure 17		2		
Rim profile 42 of figure 17			1	
Total (undecorated)		13	14	5
FINER PLAINWARE				
Rim profile 40 of figure 17			1	
Total (undecorated)		11	5	2
CHILA WHITE				
DECORATION				
Decorative technique				
Linear punctate		7	4	3
Linear punctate and incising		2		
Incising		2	1	1
Design				
Parallel lines of linear punctates		7	4	3
Incised wavy bands with linear punctates		2		
Incised crosshatching		1		
Curved parallel lines				1
Straight parallel lines		1	1	

CHART 9—*Continued*

Level	1	2	3	4
VESSEL SHAPE				
Outsloping straight-sided bowls				
Rim profile 1 of figure 17				2
Rim profile 2 of figure 17		3		1
Rim profile 3 of figure 17		2	4	1
Flaring sided bowls				
Rim profile 7 of figure 17		1		
Rim profile 8 of figure 17		2	2	
Rim profile 9 of figure 17		2	1	2
Vertical sided bowls				
Rim profile 12 of figure 17		1	2	1
Rim profile 27 of figure 17		1		
Incurved rim bowls				
Rim profile 15 of figure 17		1		
Rim profile 17 of figure 17			1	
APPENDAGES—vessel feet				
1. Conical solid and short		3	1	
2. Conical solid and long		2	1	1
3. Hollow effigy			1	
Decorated		11	5	4
Undecorated	6	44	41	29
Totals	6	55	46	33
HEAVY PLAIN				
SURFACE FINISH—Red slip or wash variety		51	31	17
VESSEL SHAPE of red surfaced variety				
Plate. Rim profile 32 of figure 17			1	
Ollas				
Rim profile 53 of figure 17		3	1	1
Rim profile 57 of figure 17		2		
Rim profile 58 of figure 17				1
Rim profile 61 of figure 17		1		1
Rim profile 64 of figure 17		1		
SURFACE FINISH—Plain variety		153	143	74
VESSEL SHAPE of plain surface variety				
Bowls—Rim profile 15 of figure 17			1	
Ollas				
Rim profile 53 of figure 17			2	1
Rim profile 55 of figure 17		5		1
Rim profile 58 of figure 17			1	
Rim profile 63 of figure 17			1	
Rim profile 64 of figure 17		2	2	2
Totals	41	204	174	91
EL PRISCO BLACK	2			
ZAQUIL RED	1			
TANCOL BROWN-ON-BUFF	2			
HUASTECA BLACK-ON-WHITE	4			
SPANISH GLAZE	32			
ABERRANT OR UNIDENTIFIED	125	71	66	32
GRAND TOTAL OF SHERDS	213	439	408	238

However, in spite of the continuity of periods, each one has distinctive ceramic, figurine, and artifact complexes. These distinctive characteristics appear to reflect not only developments within the area but also influences from other areas. At present, each of the Pre-Classic periods in the Huasteca is represented by only limited excavations at one to three sites. Therefore, this sequence and its characteristics are tentative, subject to confirmation or correction by future investigations in the region.

PAVON PERIOD

Materials of this period have been found only in the lower levels 21 and 22, Zone C of VC-2. Our present knowledge of the period is very limited, only 690 sherds and a few other artifacts being found. Future investigations should concentrate on this horizon.

Ceramically the period is represented by four pottery types and one sub-type: Progreso Metallic, Heavy Buff, Heavy Plain, Progreso White, and the sub-type of Progreso White, Cylindrical Punctate. Monochrome painting of vessels, when it occurs, is usually with a white chalky wash, though a few sherds of the Heavy Plain type have a red wash on them. Very few sherds are decorated. The few decorated sherds have designs made by lines of overlapping cylindrical punctates. Two sherds in the uppermost portion of the Pavon Period deposits have parallel incised lines on them but these are certainly not characteristic of the period and may well be intrusive. Vessel forms are limited to three general shapes which may be divided into five more specific classes. Ollas with a small mouth, short outflaring necks at a right or acute angle to an almost horizontal shoulder, a globular body or an inverted pear shaped (amphora?) body and with small flat bases are the dominant vessel form. The second most common shape consists of ollas with outcurved rims and necks that blend into globular bodies with flat bottoms. This more general form may be divided into two classes: those having pointed or contracting lips and those having thickened rounded lips. Flat bottomed bowls with outsloping sides are the least common of the general types. There are two specific forms of the flat bottomed bowls: those with straight outsloping sides and those with outflaring or outcurved sides. Three rim sherds were found in level 21 which have vessel forms that are not considered characteristic of the period and which might possibly be intrusive. Two of the sherds are from an incurved rim bowl while the other sherd is from a flaring sided bowl with a slightly convex bottom (composite silhouette bowl). Generally speaking, the period is characterized by a limited number of unsophisticated vessel forms, the absence or near absence of decoration, limited kinds of monochrome surface finish, absence of vessel appendages (spouts, handles, feet, etc.) and a very limited number of pottery types. Thus Pavon Period pottery is primitive and simple in all but manufacturing technique (Progreso White and Progreso Metallic having well fired fairly compact paste).

Figurine types for the period are unknown. However, one head fragment from level 21 attests that they existed at that time, though they would be very rare. Other clay objects are equally scarce, one fragment of a hollow clay ball being uncovered in level 21.

Chipped stone artifacts are rare, only one small fragment of a flake end scraper having been found. I believe it is significant that obsidian chips are absent while numerous flint chips occur.

The fragment of one ovoid pebble mano and part of a metate indicate that some food was ground and it might be inferred that corn agriculture existed. The dominance of oyster shells and marine mollusks over freshwater types indicates another staple of the diet of the Pavon Period and it may be inferred that either the Rio Panuco was saltier than at present or that the Pavon peoples often went 50 miles to the Gulf for food. A few animal bones show some dependence on hunting.

The thin layers of refuse at VC-2 certainly seem to indicate that at least at VC-2 the population was possibly small and did not occupy this area all the time. Fragments of wattle and daub in floors 5, 6, and 7 tell us something of the type of construction of their dwellings.

PONCE PERIOD

The artifacts of this period were discovered in the lower half of Zone B, levels 14–20, only at VC-2. Materials are fairly abundant. The continuity of various artifact types indicates that this period developed from the Pavon Period, while the radical shifts in percentages of continuous types and the introduction of new types, as well as the geology, suggest a slight temporal gap between the two. Some of the ceramic change may have been due to outside influences. In terms of developments, the Ponce Period sees the addition of many new artifact types and concepts to the relatively simple artifact complex of the Pavon Period.

In pottery, the Ponce Black type and the sub-type Incised Hub and Spoke of Progreso White are the most prominent of the new additions. Percentages of other types shift radically, with Progreso Metallic and the sub-type of Progreso White, Cylindrical Punctate, diminishing noticeably, while Progreso White increases. In surface finish there are not only the red and white monochromes, but black monochromes. In decoration, incising on interior bottoms of bowls comes in as a new decorative technique. The commonest incised designs consist of: hub-spoke motifs filled with parallel or cross-hatched lines; checker board designs with the diagonally opposite squares filled with parallel or cross-hatched lines; areas filled with only parallel lines; and areas filled with only cross-hatching. Rarely appearing are motifs of: alternate areas, each one being filled with parallel lines in opposite directions; areas filled with cross-hatching separated by bands of incised parallel lines; and alternate areas, one filled in by cross-hatching and the other by parallel lines. Vessel forms show even greater changes. The pointed-lip and thickened-lip outflaring-necked globular-bodied ollas continue with about the same amount of popularity, while the flat-bottomed bowls with outflaring or straight outsloping sides diminish slightly in popularity. The

typical vessel shape of the Pavon Period, flat-bottomed ollas with inverted pear- or globular-shaped bodies and flaring necks at an acute or right angle to the shoulder, almost disappears. Ten new vessel forms appear along with these older ones. The most popular of these (in the order mentioned) are: straight-rim outsloping-sided bowls with convex bottoms, hemispherical bowls, flaring-sided convex-bottomed bowls, and incurved-rim bowls. Appearing in minor amounts are convex-bottomed recurved-rim bowls, simple plates or dishes, incurved vertical-sided convex-bottomed bowls, thick-walled cylindrical jars, incurved-walled vertical-sided jars and small-mouthed thickened-rim ollas. Small effigy bowls with modelled and incised features also occur. Appendages appear to be absent, though one poorly fired cylindrical object might be part of a vessel spout, and one clay object which I have classified as an arm of a figurine might vaguely be construed to be a loop handle.

As marked as the additions in pottery types is the influx of figurines. Generally speaking, the figurine heads of this period are large (1½ to 3 inches in height); eyes are elliptical or diamond-shaped impressions with large centrally located round punctates for eyeballs; mouths are half opened; lips are crescentic appliqués of clay; and noses are roughly triangular. However, in spite of the fact that each head has some unique features, as well as the general similarities mentioned above, they have been classified into five types called: prognathic elliptical-eyed type, realistic projecting eyeball type, puffed cheek types, plain crescentic cap type, and scalloped-edged cap type. In my opinion these heads are less stylized and more realistic than those of later periods. Body fragments show figures to be wasp-waisted, low breasted, flaring hipped, and with pointed feet. Most figures are standing with feet slightly apart; a few may be seated with legs spread. One aberrant figurine appears to have three legs.

Other clay objects include solid clay balls and hollow clay balls. Some of the pierced hollow clay balls may be earballs or beads. The solid clay balls may have been gaming objects or pellets for weapons (slings or blow guns). One of the figurines has a nose plug and all have ear plugs; therefore, I believe that either wood, stone, or clay nose and earplugs may be considered traits of this period and might be found in future excavations. One small fragment of what might be a potsherd disc was also found.

Stone artifacts are rare. Two flint flake side scrapers and a flake end scraper were present. The central portion of the blade of a projectile point was also found. In terms of material used, obsidian flakes are about twice as numerous as are flint chips. The obsidian is entirely of the black, almost opaque, type.

Ground stone artifacts are not numerous. Two fragments of squared-edged thick flat metates (evidently without feet or even a well defined trough) of volcanic rock were encountered as well as the rim fragments of granite metates with pointed, upcurved lip. In cross-section, this later type is semi-lunar and it appears to be without feet. Manos were not numerous; there appear to be three types. One type, represented by one specimen, is oblong in shape and rectangular in cross-section, a second specimen is rectangular in shape and diamond shape in cross-section while a third type appears to be long and cylindrical (three of this kind were uncovered). These objects suggest considerable dependence on corn agriculture and/or seed gathering.

Beside evidence of agriculture, the numerous shells in the midden attest to some dependence on shell-fish as a foodstuff. The majority of the shells are fresh-water clams. Animal bones in the refuse give some evidence of hunting. One femur appears to be that of a small dog and it may be inferred that the domesticated dog was known at least this early.

AGUILAR PERIOD

Materials of this stage were found in levels 6 through 13 at VC-2. Artifacts were abundant and at least two well-defined house floors were exposed and others could be seen at roughly the same levels in the banks adjacent to the excavation. Furthermore, Roberto Pavon found Aguilar figurine types in various deep excavations in the central part of the present village of Panuco. A study of the bank hints at the possibility that these other deposits are connected with those of VC-2 and that at the time of the Aguilar Period there was a village at Panuco at least one mile long.

The Aguilar Period sees the addition of two new pottery types, Aguilar Red and Aguilar Gray, as well as the introduction of the sub-types of Progreso White, Opposed Areas and Incised Curvilinear. Progreso Metallic and the sub-type of Progreso White, Cylindrical Punctate disappear in this period while the sub-type of Progreso White, Incised Hub and Spoke is definitely on the wane. Heavy Plain, Heavy Buff, Ponce Black, and Progreso White continue into this period in about the same proportion as in the previous period. In regard to surface finish, red and gray washes have been added to the complex.

Four aberrant sherds have bichrome painting, one being a white on red sherd, one a red on white sherd, while the other two have black lines on a whitish gray background. On a number of sherds of one pot, obvious aberrant, there is a black slip cut by wide engraved lines filled with red paint.

However, most of the decoration of this period is made by combing with a three- to six-toothed object and by incising. Distinctive of the period are five kinds of motifs, three of which appeared sparingly in the previous period, plus two new ones. They are (in the order mentioned): designs with one area filled with parallel lines adjacent to an area filled with parallel

lines running in the opposite direction; designs with one area filled with cross-hatching adjacent to an area filled with parallel lines; and areas of cross-hatching separated by a band of from three to nine parallel lines. New ones include undulating bands composed of four to six parallel incised lines near areas filled with cross-hatching or parallel lines, and only undulating bands composed of four to six parallel incised lines. Hub and spoke designs still appear but are on the wane and die out in the last stages of the period. In vessel shape there are three significant additions: flaring-sided convex-bottomed bowls with tripod feet, outsloping straight-sided convex-bottomed bowls with tripod feet, and recurved-sided convex-bottomed bowls with tripod feet. The short solid conical feet (nubbins) appear before long solid conical feet. Many older shapes continue but in very different proportions, as silhouette bowls are now the dominant type (i.e., outsloping straight-sided bowls with convex bottoms and outflaring-sided bowls with convex bottoms). Other older vessel forms are (in order of frequency): recurved rim bowls, hemispherical bowls, ollas with outflaring necks and with either pointed or thickened lips, incurved-rim bowls, simple plates or dishes, flat-bottomed bowls, cylindrical jars, incurved-sided bowls, bowls with an incipient basal flange and flaring-mouthed ollas with pear-shaped bodies and flat bottoms. On some of the ollas are definite loop handles.

One fragment of pottery with a fabric impression gives evidence of weaving being known at this time.

Figurines of this period show considerable changes from those of the previous period. For this period, we have, beside the figurines found at VC-2, those from the Pavon collection. Generally speaking, figurine heads are small (less than 1½ inches tall); facial features are well modelled; many of the heads are flatter at the back; the eyes, though many are still similar to those of the previous period, are often made so that the three component punctated parts are separate or very poorly connected; and, finally, the portrayal of the facial features makes these heads appear more uniform. This general tendency for figurine heads to become more uniform throughout archaic times seems to carry through not only at Panuco but also in the Valley of Mexico and Tres Zapotes. In regard to types, the scalloped-edged cap type carries on from the Ponce Period, though generally speaking the Aguilar Period heads of this type are smaller. I have guessed on the basis of the Pavon collection that the plain crescentic cap type also carries over from the previous period. The pseudo baby-face and the coarse flat rectangular-eyed types are more or less diagnostic of the period while the hairknotted negroid, crew cut, and coarse paste types of the Pavon collection have been tentatively assigned to this period. Bodies of figurines change somewhat in that boot-like feet and ends of the legs bent to imitate feet appear in this period. Also, body fragments are generally smaller.

Other clay objects assignable to this period are solid clay balls, spherical clay beads, hollow clay balls, potsherd discs pierced and unpierced, parts of effigy rattles, possibly part of an effigy whistle and parts of multi-pierced balls or bowls. Small effigy bowls are still found.

One clay model of a house, and wattle and daub, plus the semi-circular line of posts molds in the north end of trench VC-2, indicate that houses had an apsidal ground plan, wattle and daub walls, a peaked thatched roof with an outside ridge pole and a single door on one of the longer sides.

Only one chipped stone object was found, a chipped flake scraper of flint. Many flakes were found, with obsidian chips out-numbering flint chips about four to one. Ground stone objects included four fragments of squared-edged metates and one fragment of a metate which was semi-lunar in cross-section. None of them appeared to have feet or deep troughs. One small fragment of what was evidently a squared-edged type of metate showed that the metate's grinding surface was flat but the back section of the metate slanted upward at an oblique angle. Fragments of oblong manos, rectangular in cross-section, of cylindrical manos, and of rectangular manos, diamond shaped in cross-section, occur. One fragment of a small whetstone also was discovered.

Freshwater clam shells far outnumbered saltwater varieties, and animals and human bones occurred in the refuse.

CHILA PERIOD

(EKHOLM'S PERIOD I)

Three sites have been excavated bearing Chila Period remains—levels 2–5 of VC-2, levels 2, 3 and 4 of VC-1 and levels 18 and 19 of the Pavon site.[87] It is possible that all three of these sites were connected and are merely portions of a city or ceremonial center about 1½ miles long. Beside the three excavated sites, about eight more sites of roughly the same period exist in the general area north of Panuco. However, in spite of this, the period is not well represented and is but poorly defined.

Two new pottery types characterize the Chila Period, Chila White and Finer Plainware, as do two new subtypes, Linear Punctate of Aguilar Red and Linear Punctate of Progreso White. Heavy Buff, Progreso White, Ponce Black, and Aguilar Gray seem to be on the wane, while Heavy Plain seems to be increasing. True slips on pottery occur for the first time, being on Finer Plainware and Chila White. Monochrome wares of gray, black, red, and white still are present. One red on white sherd was found at VC-1, while Ekholm found two sherds of red on brown in level 19 of the Pavon site. Decoration is mainly by linear punching, though

[87] Ekholm, 1944, called Period I.

incising and combing still are present. The commonest designs are straight parallel lines of linear punches. Cross-hatching on the entire bottom of bowl, and parallel lines of one area at an angle to parallel lines of an adjacent area are still fairly common. Undulating bands of three to six parallel incised lines, either alone or with linear punches, occur, as do parallel lines of combed or incised lines. On the exterior sides of bowls, combed or incised lines at an angle (acute or oblique) to the lip occur, or there may be a single incised line parallel to the lip. A few of the thickened-lip variety have a single line on the lip encircling the top of the vessel. One sherd decorated with zoned punctates occurred at VC-1. In vessel forms we see a series of innovations. Ollas with thickened lips, a vertical neck at an oblique angle to the globular body which sets on a flat or slightly annular base are common. Convex-bottomed bowls with incurved, vertical sides and a thickened lips are common. These are usually without feet, but a few have tripod feet. Hemispherical plates or dishes, outflaring bowls with basal flanges, and incurved-rim bowls whose sides are at an acute angle to their convex bases also begin to appear. Older forms, such as silhouette bowls (outsloping straight-sided bowls with convex bottoms, and outflaring-sided bowls with convex bottoms), are still very popular. Silhouette bowls with tripod feet seem to be on the increase. Incurved rim bowls; hemispherical bowls, simple dishes, recurved-rim bowls, and ollas with thickened or pointed lips occur as minority types. Vessel feet show considerable variety, with long solid conical ones being dominant over short solid conical ones, effigy animal feet, and short hollow conical ones. Handles also are varied, with loop, strap and double loop occurring. Appliquéd ridges are present on some Heavy Plain ware.

As I have indicated previously, figurines *in situ* in Chila deposits are rare (only one being found by Ekholm at the Pavon site). However, Roberto Pavon indicated that many of his figurine heads come from Chila deposits, so I shall tentatively use his rather full data and am relying in part on discussions I had with him concerning the time of the types. General characteristics of the figurines are about the same as those of the previous Aguilar Period. Types that have been tentatively assigned to the Chila Period are: hairknotted negroid type, crew cut type, coarse paste type, coarse flat rectangular-eyed type, cut-featured type, bulging eye type, and large El Prisco type. Bodies are about the same as previously mentioned for the Aguilar Period.

Effigy rattles and whistles occur. Solid clay balls, spherical clay beads, potsherds discs, pierced potsherd discs and one doubtful fragment of a ladle were found.

No chipped stone artifacts have been found in Chila Period levels. Obsidian chips are about four times as numerous as flint chips but neither are very numerous. Only one fragment of a metate, semi-lunar in cross-section, and part of one cylindrical mano were found at VC-1.

Architectural features are not well known, unless the curved trench at VC-1 is considered to be a wall trench of an elliptical house. The four posts extending down from level 4 at VC-2 that form a semi-circle and the piece of wattle and daub hint at houses like those described for the Aguilar Period.

Numerous mounds at the Chila site and a large mound just south of the highway half-way between Panuco and El Ebano give us information on ceremonial structures. At Chila there were a number of mounds cut by a road excavation. There it was possible to see a series of super-imposed burned clay floors and evidence of extensive mound building. All structures that I have seen associated with Chila pottery appear to be truncated cones. None of them are faced with stone, nor are steps or ramps apparent. As far as could be determined from a hurried search through dense bush, they do not appear to be surrounding any sort of plaza, and the one large mound between El Ebano and Panuco appears to be a single mound.

Shells, mostly freshwater, fish bones, and animal bones were found associated with Chila deposits, but are much less numerous than in the previous period.

EL PRISCO

(EKHOLM'S PERIOD II)

I have taken the liberty of summarizing this period described by Gordon Ekholm in his 1944 report as I shall be discussing it in the next section. Materials of this period were uncovered by Ekholm at the El Prisco site, at Tancol and in levels 13 through 17 at the Pavon site. With the possible exception of Panuco Period (Period VI) sites, this period is represented by more mounds and large sites than any other period in the Tampico-Panuco region. In 1948, in the area of Laguna de la Tortuga, I tested two large sites of this period while hunting for earlier materials. Superficially, it would appear that there was a cultural discontinuity between the Chila and El Prisco Periods as we now know them. Actually, this may be more apparent than real, as our knowledge of late Chila or early El Prisco is extremely sketchy. Therefore, in this section I shall point out whenever possible the discontinuities and the continuities. There are at present two ceramic complexes known from the period which I shall describe separately.

The El Prisco ceramic complex is characterized by the pottery types El Prisco Black, Panuco Gray, and the sub-type of El Prisco Black, Fresco Decorated. Chila White dies out early in the period, but the Heavy Plain type carries on from the Chila Period practically unchanged. Some of the sherds classified as "Red ware" appear to be carry-overs of Aguilar Red. It is also possible that El Prisco Black developed from

Ponce Black, and Panuco Gray from Aguilar Gray. Generally speaking, these later black and gray surface finishes differ from the earlier types in that they are inclined to be made by a slip, rather than by a wash. Decoration, as in the previous period, is mainly on interior bottoms of bowls. The older varieties of incised decoration carry on from the Chila Period, being one area of parallel lines adjacent to another of parallel lines running in opposite directions, parallel lines in one area and cross-hatched lines in an adjacent area, only parallel lines and only cross-hatching. However, other decorations do occur. Of these the Fresco decoration is most distinctive. It has layers of brilliant red and white paint applied to the surface of El Prisco Black bowls. A band of three or four parallel lines at an acute or oblique angle to the lip occurs (as in the Chila Period), but some of the lines are different from those previously found in that their areas may be covered with red or black paint. Another distinctive new type of decoration on interior bottoms of bowls consists of areas of red paint outlined by incised lines.

Perhaps the biggest difference from the previous period is to be found in vessel shapes. The most distinctive and dominant forms are bowls with insloping sides and a thickened or outflaring lip, with a rather sharp ridge on the exterior between the sides and the convex bottom of the bowl. Bowls with outcurved vertical or outsloping sides and convex bottoms appear to carry over from the previous period, as do incurved bowls, hemispherical plates or dishes, and vertical-necked ollas with thickened lips. Outsloping straight-sided bowls and outflaring-sided bowls with convex bottoms are very rare in this period. New additions also include flaring-sided bowls with everted lips, hemispherical bowls with flattened thickened lips, corrugated-sided incurved rim bowls, and bowls with outcurved sides and a pronounced basal ridge. One of the most important additions to this period consists of ladles or dippers. The older form of vessel feet, short solid and conical, appears to continue as the dominant form. Short hollow conical feet and horizontally pierced feet appear, but are rare. Other appendages include loop and strap handles and appliquéd ridges of clay on Heavy Plain. All of these appendage features appear to be carried over from the Chila Period.

Figurines of the El Prisco Period are usually small, handmade, have good paste, and have either painted, slipped, or polished surfaces. Eyes are made by punctations (often three adjacent ones), and within the numerous types there is great uniformity. Types of the period are: flat rectangular-eye, cut feature, bulging eye, large El Prisco, Panuco A, coffee bean eye, mask type 1, and monkeys. Many of these may have developed from Chila and Aguilar types.

Animal or bird effigy whistles appear, as do effigy rattles and animal figurines. Long tubular, short tubular, and solid spool-shaped earplugs and potsherd discs, pierced or unpierced, were found at the Pavon site in El Prisco Period levels.

No chipped stone objects have been found associated with materials of this time period. Ground stone objects include bell-shaped pestles, long overhanging cylindrical manos, squared-edged rectangular metates, whetstones, perforated triangular fragments of green stone, and quartz polishing stones.

House types of this period are unknown. Rectangular and round truncated mounds occur, some of which seem to have had plastered surfaces. In many cases the mounds are arranged around plazas.

Beside the cultural complex described above there existed in the Panuco-Tampico area, evidently at roughly the same time, the Tancol complex. At present only the ceramic complex and one figurine type are known. As far as can be told from our present scanty knowledge, the Tancol complex represents a ceramic tradition separate from the main development found by Ekholm and myself. It appears to represent an invasion into the Tampico-Panuco area by a completely alien group. Fortunately, a few resemblances with El Prisco are to be found and these are the basis for it being assigned to the El Prisco Period. In my own personal opinion it probably belongs to the early part of the El Prisco Period.

As far as paste and surface finish are concerned, most of the pottery is uniform, being coarse in paste and having a slip on the exterior. A few sherds have red paint outlined by incising, while one sherd has red and white fresco paint. Decoration consists of incising on interior bottoms, thickened lip surfaces, or exterior walls. On interior bottoms the sherds may have incised parallel curvilinear lines or punctates and incising (zoned punctates); two sherds have linear punching inside curved lines, and a few have incised lines forming diamonds. Lips may bear one to three parallel lines, but more commonly they display lines and punctates. Exterior sides have punctates inside parallel incised lines, or deep incised lines forming geometric patterns. The commonest vessel form is a hemispherical bowl with a flattened lip. Many sherds are from vessels of vertical sided bowls with thickened or flared rims. Flaring-sided convex-bottomed bowls, outsloping straight-sided bowls with convex bottoms, flat open dishes with an incurved lip, incurved rim bowls, small-mouthed seed bowls, insloping straight-sided bowls with convex bottoms and with a ridge or short angle at the junction of the base and sides are common. Typical El Prisco and Chila Period Heavy Plain ollas appear. Vessel feet are usually of the loop or horizontally pierced variety, though a few short solid conical ones appear.

Figurines of the Tancol complex are of flat rectangular-eye type.

EXTERNAL RELATIONS OF THE PRE-CLASSIC PERIODS AT PANUCO

For a number of reasons, any correlations of the Pre-Classic sequence at Panuco with those from other regions are tentative. First of all, Pre-Classic remains have been uncovered in widely separated areas and the great spatial gaps between many of the sites make temporal equation difficult. Secondly, from the evidence present in the early levels, trade relations do not seem as great as in late periods, and distinctive wares (such as fine orange and plumbate) which could be used as time-markers over wide areas appear to be lacking. Thirdly, the incidence of inventions of certain early traits and their subsequent diffusion, early cultural centers, and early areas of cultural lag are difficult to discuss, since no adequate (relative or absolute) means of dating remains in each area exists. Fourthly, with the possible exception of Wauchope's excellent paper,[88] correlations of Pre-Classic sequences over wide areas of Middle America, when attempted, appear to be very subjective. The objective data (if they exist) seldom receive more than cursory mention in conjunction with the correlation chart or charts. Any criticism of archaeologists making such correlations must be tempered by the inadequacy or lack of extensive reports available from many areas, the fact that archaeological collections from the various excavations are available only at widely separated points in North and Middle America, and the fact that few archaeologists have sufficient time or available funds to travel extensively to study each collection.

In my own case, I am well aware of my inadequacy to undertake the task of correlation of Pre-Classic sequences. I have been able to study type collections only cursorily at the American Museum of Natural History in New York from El Arbolillo, Zacatenco, Gualupita, Ticoman, and Tres Zapotes. I was able to spend only a short time at the Peabody Museum of Harvard examining Maya and Honduras materials. Collections from Tres Zapotes, Cerro de las Mesas, and the Bay Islands of Honduras have been only briefly observed at the National Museum at Washington, D. C. The only materials I have seen from Monte Alban are those on exhibition in the Museo Nacional in Mexico. Robert Eliot Smith and Edwin M. Shook were kind enough to send me a small type collection of sherds from the Pre-Classic levels of Uaxactun and Kaminaljuyu. It has, of course, been possible to correspond and discuss Pre-Classic materials with various archaeologists, as well as study the reports of excavations of early sites. Nevertheless, discussions, correspondence, and the study of reports are at best poor substitutes for the intensive study of the actual materials.

However, in spite of the many difficulties and insufficiencies mentioned above, correlations of Pre-Classic sequences and sites are vitally necessary if any understanding of the cultural developments, diffusion of traits, and cultural dynamics of Meso-America is to be attained. Furthermore, with additional information on this horizon constantly accruing, the terminology concerning the various temporal stages and the definition of the traits of the various temporal stages are becoming more and more confused. The few attempts in the past at establishing any sort of general temporal yardstick composed of sequential or developmental complexes of traits have been drowned under the sea of new data. Thus it seems high time that attempts to order this chaos be undertaken no matter what the difficulties. One valiant attempt in this direction was undertaken by Wauchope.[89] Another attempt is presented in the following pages.

To begin, it is necessary to delineate generally the Pre-Classic and the Classic of Middle America. Typical of the Classic stage are the Tzakol and Tepeu phases of Uaxactun,[90] the Esperanza phase of Kaminaljuyu,[91] and Teotihuacan (II-V) in the Valley of Mexico. Some characteristics of the early part of this stage that appear over a wide area in Meso-America are mold-made figurines, cylindrical vessels, slab vessel feet, polychrome pottery, fresco decorated pottery, carved decoration of pottery, stone sculpture, and extensive architectural features. The materials to be considered below, called Pre-Classic or Formative, are earlier (stratigraphically) than the Classic ones or the horizons having Classic characteristics. General characteristics of the Formative or Pre-Classic (which will be better defined in the subsequent discussion) are modelled figurines, monochrome or bichrome pottery, vessel feet either conical or bulbous (if not lacking), and, generally, the lack of extensive architectural features and incised or engraved decorated pottery.

Ideally, absolute dates for each Pre-Classic period or phase in Middle America would solve the problem of temporal correlations of various sites and their temporal divisions. At present, no adequate dating system has been used or perfected. Carbon 14 dates have been established for some materials in the Valley of Mexico. However, the dates given for the cultures do not agree with the stratigraphic data. Charcoal from Early Zacatenco is dated as 3310 ± 250 years ago, while charcoal from Tlatilco (Middle Zacatenco in time) is dated as 3407 ± 250 years ago. Even worse, a wood pillar from Teotihuacan, stratigraphically considered much more recent than either of the above, is dated by Carbon 14 as older than either of them, 3424 ± 250 years ago.[92] The Carbon 14 dating technique may well prove to be the solution for correlating Pre-Classic materials. At present, however, materials suitable for Carbon 14 tests are not available from the various Pre-Classic manifestations, and certainly in light of the

[88] R. Wauchope, 1950.

[89] R. Wauchope, 1950.

[90] R. E. Smith, 1940.

[91] Kidder, Jennings, and Shook, 1946.

[92] J. R. Arnold and W. F. Libby, 1950: 13–14.

above dates some sort of refining of the technique seems necessary.

In lieu of exact year dates, one must fall back on overlapping pottery types or wares, overlapping artifact or figurines types, trade objects and similar trait complexes. Since I am most familiar with materials from the Panuco sequence, I shall first consider those materials found at Panuco that overlap with materials from sequences in other areas. So far, most of the aberrant sherds at Panuco which may be trade sherds have not been identified as to place of origin. However, one pottery type at Panuco does appear to have definite analogies with pottery from another area. The Ponce Black pottery type is extremely similar to the black ware of Lower Tres Zapotes.[93] Ponce Black, like blackware of Tres Zapotes, has "minute specks of white tempering, although as a rule . . . [it] contains a good deal of white sand . . . the paste tends to medium coarseness" and is often rather porous. "The paste is ordinarily black through and through" while "irregular fired cloudlike patches of grayish white"[94] appear on the outer sides of vessels or at the lip. Hardness is about 3 and sherds vary between ¼ and ¾ inch in thickness. Generally speaking, inner surfaces are polished black, while exteriors are only smoothed and have a mottled or less pure black appearance. Vessel shapes are very similar, in that flaring-sided and outsloping straight-sided flat-bottomed bowls (called bowls, flat base, flaring rim by Drucker 1943*a*: 61), hemispherical bowls (called bowls, curved sided by Drucker 1943*a*: 61), incurved-sided bowls with or without a tapered everted lip, flaring-sided convex-bottomed bowls (called bowls, composite silhouette by Drucker 1943*a*: 61), and concave-sided jars are the dominant forms of the black pottery in Lower Tres Zapotes and in the Ponce Period at Panuco. Since decorations are not described for materials from Lower Tres Zapotes, similarities in this respect with Ponce Black cannot be evaluated. Appendages appear to be absent in the black pottery from both areas. All in all, the Ponce Black type and the black ware sherds from Lower Tres Zapotes appear to belong to the same ware class and in some cases, I believe, even to be the same pottery type. Certainly, there seems to be justification for tentatively considering the Ponce Period of Panuco and Lower Tres Zapotes of southern Vera Cruz to be roughly contemporaneous. As we shall see, other traits appear to confirm such a conclusion.

R. E. Smith has already pointed out that the early Mamom Black ware and that of Tres Zapotes are quite similar and might be related.[95] I have seen only a few sherds of early Black ware from Mamom and, while admitting their similarity to those of Tres Zapotes, I would be inclined to say that they are not so closely related to Tres Zapotes Black ware as is Ponce Black from Panuco. However, there is a definite similarity in temper, paste consistency, firing technique (reducing atmosphere) and surface finish between some of the early black ware sherds from Mamom, Lower Tres Zapotes, and Ponce. Many of the vessel forms, the use of appendages, decoration, and the occasional use of a slip on the black pottery of Uaxactun are specifically different from the Black ware of Panuco and Tres Zapotes. Perhaps there is a general black ware paste class extending from the Peten to Panuco. However, further data and analysis on this subject seem very necessary before one can form any confident conclusions about the matter.

The other items of the early Panuco sequence which show a strong resemblance to foreign materials are the figurines. In the section of the paper on figurines, I went to some length to point out the resemblances between Ponce Period figurines (and a few from the Aguilar Period) and those from the early levels at Uaxactun. Since the writing of that section, I have had the opportunity to examine a collection of fairly typical Pre-Classic Maya figurines from El Salvador at the American Museum of Natural History, and a few from Honduras and the southern Maya area at the Peabody Museum of Harvard. The resemblance between the figurines from these widely separated areas is truly remarkable and figure 25 demonstrates this fact clearly. It may be noted that the early Ponce figurines show the greatest resemblance to those from the Maya area, and I believe it is possible tentatively to equate the Ponce Period (particularly the early part) with the Mamom Period of Uaxactun. Some of the vessel forms and other traits tend to confirm such a conclusion (see fig. 35–37).

The one figurine of Aguilar Period from the excavation at Panuco called pseudo baby-face, and a number of figurines from the Pavon collection, probably from Aguilar or Chila Period deposits, resemble specimens from Middle Tres Zapotes. The Aguilar figurine with a goatee and the bearded La Venta figurines may also represent some sort of a linkage. However, these resemblances are not as great as are the Mamom-Ponce similarities.

Besides comparisons of pottery types and figurines of Panuco with those of other areas, it is possible to compare complexes of traits from each period at Panuco with traits of various periods from other areas. Originally, on the basis of the similarities of Panuco to Uaxactun figurines, and of black ware at Panuco to that of Tres Zapotes, I constructed a chart comparing the traits of the early ceramic periods or phases of each of these three sites. At first this chart had as its abscissa the traits from Pre-Classic periods at Panuco, arranged so that the earliest traits were at the left and the latest were at the right. The ordinate of this chart was the five Pre-Classic periods of Panuco with the earliest at the bottom and the latest at the top. Tabular values indicating the presence of a certain trait of a

[93] Drucker, 1943*a*: 60.
[94] *Op. cit.*
[95] Ekholm, 1944: 425.

certain period were marked by an *X*, or if the trait was rare at a certain period it was marked by an *R*. Next, each Pre-Classic period or phase from Tres Zapotes and Uaxactun was compared with this chart. Periods from these sites having similar tabular values to those of Panuco were then fitted into their appropriate positions on the ordinate of the chart. Some of the positions of the traits in the abscissa were shifted; or if the traits were found not to be significant or present in many periods they were eliminated; or if new traits were found that were present at numerous periods they were added to the chart in their appropriate position on the abscissa. Shortly after the original chart was completed, Wauchope's paper [96] came to my notice, and I was stimulated to revise my chart to include other sites having two or more Pre-Classic sequential periods, as well as some of the traits of these periods. The new sites included Zacatenco, El Arbolillo, Gualupita, Ticoman, Monte Albán, and sites in the Bay Islands region of Honduras. The fitting of these periods and traits into my chart made for reshuffling, eliminations, and additions. One of the end products of this manipulating may be seen in chart 10. Using these data, as well as the previously mentioned figurine and black ware resemblances, I then attempted to divide the general sequences into stages with definite stage characteristics, and to correlate the various periods from the different areas. Chart 11, which I call Alternative 1, appears to be one possible sequence. Chart 10, a correlation chart of traits and periods, indicates the sequence of traits and sequence of periods of sites by stages. Dark lines indicate the limits of the stages. A discussion of the traits may be found in the appendix.

The correlation of sites and sequence of traits offered in Alternative 1 would have Pavon and Ponce of Panuco, Lower Tres Zapotes of southern Vera Cruz, Mamom of Uaxactun (Benque Viejo I*a*), and Yojoa Monochrome of eastern Honduras as representatives of the Village Formative Stage.[97] As may be noted, all these sites are in the lowlands or eastern coastal plain. Pavon and Yojoa monochrome periods possibly represent early phases of this stage, but insufficient materials make any such assignment tentative if not hazardous. As may be seen from the chart, there is a series of traits common in most of the sites belonging to this stage.[98] Surface finish is always monochrome, being red, white, or black. The black monochrome is usually fired in a reducing atmosphere. Decoration is by incising (post- or pre-firing). Vessel forms characteristic of this stage are outflaring-sided flat-bottomed bowls; outsloping, straight-sided, flat-bottomed bowls; hemispherical bowls (with a flat bottom?); incurved-rim bowls; incurved-rim bowls with a tapered everted lip; small human-faced effigy jars or bowls; large flaring-necked, globular-bodied, flat-bottomed ollas; and, less prominently, flaring-sided bowls with convex bottoms (composite silhouette dishes or bowls). The only appendages that appear frequently in the Village Formative are unsupported spouts, though loop handles and double loop handles are sometimes found in Mamom materials. Other diagnostic objects include pierced or unpierced ground potsherd discs, and small effigy whistles (often a bird) with small loop handles at the back of the neck. Beside these Village Formative characteristics, there are the figurines which are difficult to characterize since no common type is found in all the phases belonging to this period. Generally speaking, figurines are solid and hand-modelled beings of large size (over 1½ inches tall) with triangular noses, appliqué lips, and distinctive eyes. The eyes are lens-shaped impressions with a large, deep central perforation for the eyeball. Eyes seem to have been made by two impressions of an isosceles triangle (with slightly excurvate sides) with their bases overlapping and the apexes impressed more deeply than the bases. Later they have a large conical object punched into the region of the bases of the triangle, making the sides of the punctate roughly tangent to the basal edges of the triangles. There is a general tendency for these early figurines to be more realistic and show more individuality than those of the later stages.

Periods representing the Temple Formative Stage follow periods of the Village Formative.[99] Sites are not only in the lowlands but in the highlands. (It is possible that periods of the Village Formative have not yet been found in the highlands and, therefore, the earliest ones belong to the Temple Formative.) The Aguilar and Chila Periods from Panuco, the Middle Tres Zapotes phase (and evidently La Venta and part of Lower 1 of Cerro de las Mesas) from southern Vera Cruz, the Chicanel phase of Uaxactun (and the nearby San Jose I, Mountain Cow I*a*, and Benque Viejo I*b* phases), the Playa de los Muertos, and Ulua Bichrome horizons from the Bay Islands of Honduras are lowland representatives of the Temple Formative. In the highlands, the early and middle periods of El Arbolillo, Zacatenco, and Gualuipta I (and probably Cholula I, Copilco, and Tlatilco) from the Valley of Mexico, and possibly the early part of Monte Alban I from Oaxaca (and perhaps Las Charcas from Miraflores, Guatemala) are representatives of the Temple Formative Stage. In terms of traits, let me say that many of the older (Village Formative) traits continue into this stage (see chart 10). However, there is a series of new traits

[96] Wauchope, 1950.

[97] The term Village Formative Stage has been adopted from Wauchope's 1950 paper. As may be seen, the characteristics of the stage are redefined.

[98] For descriptions and illustrations of many of these traits see the appendix and figs. 35–37.

[99] I prefer to use the term Temple Formative instead of Wauchope's Urban Formative. I feel that this stage is not characterized by true cities and therefore not urban. The temple building complex seems to be moreover extremely characteristic of the period.

CHART 10

ALTERNATIVE I—CORRELATION OF TRAITS AND SITES OR PERIODS IN MESO-AMERICA

	Punctate decoration only	Ollas dominant vessel form	Figurines rare or absent	Flaring-sided flat-bottomed bowls	Outsloping straight-sided flat-bottomed bowls	Heavy flaring-rimmed ollas	Monochrome Red ware	Monochrome White ware	Tubridged spouts	Small human face effigy jars	Hemispherical bowls (flat bottom?)	Potsherd discs (pierced or unpierced)	Loop handles	Incised decoration	Incurved rim bowls	Monochrome black fired in a reducing atmosphere with engraving	Large, coarse-pasted, punctated-elliptical-eyed figurines	Small, fine-pasted, figurines with eyes composed of punctates forming inverted V's	Outflaring-sided composite silhouette bowls	Double loop handles	Red-on-white bichromes	Small tripod vessel feet	Incised thick lips with external horizontal projections	Insloping-sided composite silhouette bowls	Rocker stamping in zones	Incised-zoned punctate	Strap handles	Basal-flanged bowls	Ladles or dippers	Isolated mounds	Red painted areas outlined by incising	Extensive mound building	Stone architecture	Mammiform vessel feet	Polychrome painting of pottery	Potstands
Pre-Acropolis Copan						x	x																													
Upper Tres Zapotes (early part)				R	R	x	x	x			R		x	R	x			x	x								?	x								
Monte Alban II				x	x	x	R	x			x		x	x	x			x	x								x	x								
Holmul I & Mountain Cow II					R	x							x	R													x	x								
Ticoman, Zacatenco 3, Cuicuilco & Teotihuacan I						x	x	R				x	x	x	x	x		x	x		x	x	x		x	x	R	x	x							
El Prisco and Tancol					R	x	R					x	x	x	x	x		x	x		R	x			x	x	x	x								
Monte Alban I				x	x	x	x	x			x	x	x	x	x	x		x	x		x	x				x	x	x								
Chila					R	x	R	x		R	R	x	x	x	x	R	?	x	x	x	x	x	x	x	R	x			x								
Middle Tres Zapotes, La Venta Cerro de las Mesas—Lower I				x	x	x	x	x			R	x	x	x	x	x	R	x	x	?	x	x	?					R	x								
Middle Zacatenco, Tlatilco Middle El Arbolillo				R	R	x	x	x			x	x	x	x	x	x		x	x	x	x	x		x				x	x		R						
Ulua bichrome				R		x	x	x						x		x		x	x	?	x	x	x		x												
Chicanel, San Jose I, Benque Viejo, Mt. Cow I				x	R	x	x	x	x	x	x	x	x	x	x	x	?	?	x	x	x	x	x	R		x											
Early El Arbolillo & Zacatenco				?		x	x	x		x	x	x	x	x	x	x	x	R	x		x	x	x					R			?						
Aguilar				R	x	x	x	x		x	x	x	x	x	x	x	x	R	x	R	x	x	x	R													
Playa de los Muertos				x	?	x	x	x	x	x	x	x	x	x	x	x	x		x		x	x	x			x	x										
Mamom & Benque Viejo Ia				x	x	x	x		x	x	x	x	x	x		x	x			R	x	x															
Ponce				x	x	x	x	x	?	x	x	R	?	x	x	x	x		R																		
Lower Tres Zapotes				x	x	x	x	x	x	x	x	R	x	x	x	x	x						x														
Vojoa Monochrome			x	x	x	x	x	x									x																			
Pavon	x	x	x	x	x	x	x	x																												

CHART 11

ALTERNATIVE 1—CORRELATION OF PRE-CLASSIC SEQUENCES IN MESO-AMERICA

	Oaxaca	Valley of Mexico	Huasteca	Southern Vera Cruz	Lowland Maya	Lowland Honduras
Proto-Classic	Monte Alban II	Ticoman-Teot. 1 Late Zacatenco	El Prisco-Tancol	Upper Tres Zapotes	Holmul I	Copan I
	Monte Alban I	Tlatilco-Zac. 2-El Arbolillo 2	Chila	La Venta-Cerro d. l. Mesas I	San Jose I-Chicanel	Ulua Bichrome
Temple Formative		Zacatenco I-El Arbolillo I	Aguilar	Middle Tres Zapotes		Playa de los Muertos
Village Formative			Ponce	Lower Tres Zapotes	Mamom	
			Pavon			Yojoa Monochrome

distinctive of the period.[100] Besides the red, black, and white monochromes there are bichromes of red on white (maybe red on black), and decoration in which areas of red are outlined by incised lines. Rocker stamping appears at a few sites. Thickened lips of bowls with horizontal external projections are decorated by incising and punctating. Zone punctate decoration is present. In vessel forms basal-ridged bowls and insloping-sided composite silhouettes appear for the first time. As to vessel appendages, loop handles and double loop handles are now fairly frequent, and by the end of the stage strap handles occur. Vessel feet (tripod) also began to appear. These feet are usually short and solid, but there appears to be considerable regional variation in form. Ladles or water dippers make their appearance in this stage but the trait is much more frequent in the following stage. It is in this period that isolated mounds began to appear at various sites, but it is either not a widespread occurrence or our knowledge of the incidence of early mounds is too scanty. In figurines there appears to be considerable regional variation, but, generally speaking, heads are modelled, they may be either solid or hollow, they are small in size (under 1½ inches), have twice or thrice punctated eyes forming inverted *V*'s, and there is a general tendency for them to be less realistic and more conventionalized than in the previous stage. It might be added that at Uaxactun, Tres Zapotes, and possibly Monte Alban a calendrical system is recorded on stone for the first time.

While there had been some regional specialization in the Village Formative Period and a little more in the Temple Formative, the Proto-Classic Stage sees really great regional specializations. As might be expected, in most of the areas, traits of the previous period continue to develop. Generally speaking, there are inclined to be significant differences from the previous stage in each area, but few widespread resemblances occur in each area. The few new traits that appear to have wider areal and temporal implications are polychrome pottery, bridge spouts on vessels, ladles or dippers, potstands, large mammiform vessel legs, a tendency for strap handles to be more frequent, and extensive building of mounds (often around plazas or connected with stone architecture).[101]

This tentative sequence of the Pre-Classic Stage and its characteristics appears to make the early stages in the lowlands relatively earlier than the early stages in the highlands. With particular reference to the Valley of Mexico, I believe that the sequence at Tres Zapotes and La Venta is particularly helpful in correlating lowland-highland sequences. The materials at La Venta and Tlatilco have many significant points of similarity and, I believe, may safely be temporally equated and thought of as representing contact between the two loci. Baby-faced clay figurines and stone statues, jade with carved "Olmec" baby faces, rocker stamping as a decorative technique, zoned punctate decoration, and a series of vessel forms such as water bottles attest to this relationship. Tlatilco, in the Valley of Mexico, is, according to Muriel Porter's Ph.D. thesis, roughly equivalent to Early or Middle Tres Zapotes and before Early Ticoman, while Drucker feels that "the Middle Tres Zapotes period persisted a little longer at La Venta" than at Tres Zapotes.[102] Thus if Middle Zacatenco and late or just post Middle Tres Zapotes are equated via the La Venta-Tlatilco relationship, it would seem possible that Early Zacatenco and at least some part of the early Middle Tres Zapotes phase were roughly of the same time. Detailed publication and future analysis of the Tlatilco and La Venta materials

[100] See chart 10 and the appendix for further description of the traits.

[101] See appendix for further description.

[102] Drucker, 1947.

CHART 12

ALTERNATIVE 2—CORRELATION OF TRAITS AND SITES OR PERIODS IN MESO-AMERICA

	Heavy flaring-rimmed ollas	Monochrome red ware	Monochrome white ware	Monochrome black fired in a reducing atmosphere with engraved decorations	Hemispherical bowls	Incurved rim bowls	Potsherd discs	Incised decoration	Small human-faced effigy jars	Outflaring-sided composite silhouette bowls	Small, fine-pasted figurines with eyes composed of punctates forming inverted V's	Loop handles	Red-on-white bichromes	Small tripod vessel feet	Insloping-sided composite silhouette bowls	Incised thickened-lips with external horizontal projections	Ladles or dippers	Double loop handles	Red painted areas outlined by incising	Rocker stamping in zones	Strap handles	Basal-flanged bowls	Mound building	Incised-zone punctates	Polychrome painting of pottery	Mammiform vessel feet	Stone architecture	Potstands	Coastal specializations: Punctate decoration only	Ollas dominant vessel form	Figurines rare or absent	Flaring-sided flat-bottomed bowls	Outsloping straight-sided flat-bottomed bowls	Large, coarse-pasted, punctated-elliptical-eyed figurines	Tubridged spouts	Tapered everted lip on an incurved rim bowl	Whistles with small loop handles
Pre-Acropolis Copan	x	x	0																																		
Upper Tres Zapotes (early part)	x	x	x	x	R	R		x		x		x																									
Monte Alban II	x	x	x	x	x	x				x												x	x	x	x	x	x	x				R					
Holmul I & Mountain Cow II	x	x	x					x		x		x																									
Ticoman, Zacatenco 3, Cuicuilco & Teotihuacan I	x	x	x	x			x	x	x	x		x	x	x			x					R	x	x	x	x							R				
El Prisco and Tancol	x	x		x		x	x	x		x		x	x			x	x					x	x	x													
Monte Alban I	x	x	x	x	x	x	x	x	x	x			x		x	x		x				x	x	x													
Chila	x	x	x	x	x	R	x	x	R	x	?		R	x	x	x	?	R				x	?	x													
Middle Tres Zapotes, La Venta Cerro de las Mesas—Lower I	x	x	x	x	x	R	x	x		x	R	x	x	x	?	?	x	?	x	x	x				?												
Ulua bichrome	x	x	x	x				x		?			x	x	R	x				x		?															
Aguilar	x	x	x	x	x	x	x	x	x	x	x	x	R	x	R	R		R																			
Chicanel, San Jose I, Benque Viejo Ib, Mt. Cow I	x	x	x	x	x	?	x	x	x	x	?	x	x	x			x																				
Middle Zacatenco, Tlatilco Middle El Arbolillo	x	x	x	x	x	x	x	x	x	x		x	x	x			x	R	x	x																	
Playa de los Muertos	x	x	x	x	x	x	x	x	x	x		x	x	x			x																				
Mamom & Benque Viejo Ia	x	x		x	x		x	x	x	R	x	x	x						x																		
Ponce	x	x	x	x	x	R	x	x	x	x	x	?																									
Lower Tres Zapotes	x	x	x	x	R	x	x	x	x	R	x	x	R																								
Early El Arbolillo & Zacatenco	x	x	x	x	x	x	x	x		x	R	x	x	x	x			R	?																		
Yojoa Monochrome	x	x	x					?																													
Pavon	x	x																																			

CHART 13

ALTERNATIVE 2—CORRELATION OF PRE-CLASSIC SEQUENCES IN MESO-AMERICA

	Oaxaca	Valley of Mexico	Huasteca	Southern Vera Cruz	Maya Lowlands	Lowland Honduras
Proto-Classic	Monte Alban II	Teot. 1-Ticoman-Zacatenco 3	El Prisco-Tancol	Upper Tres Zapotes	Holmul I	Copan I
	Monte Alban I		Chila			
Temple Formative		Zacatenco 2 El Arbolillo 2	Aguilar	Middle Tres Zapotes	Chicanel	Ulua Playa de los Muertos
			Ponce			
Village Formative		Zacatenco 1 El Arbolillo	Pavon	Lower Tres Zapotes	Mamom	Yojoa Monochrome

could do much toward confirming or negating such a hypothesis.

A glance at the various articles and charts concerned with the correlations of the periods and sites of the Pre-Classic periods or stages will indicate that chart 11, called Alternative I, is at some variance with these other correlation attempts.[103] Taking the various other attempts and fitting in my own sequence, I arrived at the correlation in chart 13, called Alternative 2. I then re-arranged the traits of chart 10 so that they corresponded with the latter correlation, called chart 12.

Such a chart groups the Yojoa Monochrome, Mamom, Lower Tres Zapotes, Ponce, Pavon, Lower Zacatenco, and Early El Arbolillo Periods together as representative of the Village Formative Stage. Thus, in the early period, both highland and lowland cultures are represented. Characteristics typical of the stage would be: monochrome red ware, monochrome white ware, monochrome black ware, large flaring-necked globular-bodied flat-bottomed ollas, incised decoration, hemispherical bowls, potsherd discs, small effigy jars, and composite silhouette jars. Also starting in this period, but mainly confined to Early El Arbolillo-Zacatenco, would be loop handles, small tripod feet, red on white bichrome ware, incised thickened-lipped vessels with external horizontal projections, angled insloping bowls and corrugated-sided wares as well as ladles. Specializations in the early coastal sites, not found early in the Valley of Mexico, would be: unbridged spouts, effigy whistles with a loop handle, double-loop handles, incurved rim bowls, outsloping straight and flaring-rimmed flat-bottomed bowls.[104]

The second stage, Temple Formative, is represented by Middle Zacatenco and El Arbolillo (also Gualupita I, Copilco, and Tlatico), Early Ticoman, Chila, Aguilar, Middle Tres Zapotes, Chicanel, Playa de los Muertos, and Ulua Bichrome (and Lower 1 of Cerro de las Mesas). The diagnostic traits of this stage would be pottery ladles or dippers, polychrome pottery, red paint areas outlined by incising, rocker stamping, mounds, bowls with a basal ridge, and strap handles. It might also be noted that the traits absent in the lowlands and present in the highlands in the Village Formative Stage now appear on the coast. These traits, presumably diffused to the coast, would be loop handles, small tripod feet, red on white pottery, incised thickened-lip bowls and angled insloping bowls. Only one early coastal trait, incurved rim bowls, appears to have gone from the lowlands to the highlands.

The final period, Proto-Classic Formative, would be represented at Late Ticoman, El Prisco, Tancol, Holmul 1, and either La Venta or the early part of Upper Tres Zapotes. Widespread traits would be few, being only mammiform feet, zoned punctate decoration, bridged spouts, and extensive mound building with mounds arranged around a plaza.

Again, some of the archaeological evidence from Tres Zapotes and the Valley of Mexico would seem to favor the second alternative. In the Valley of Mexico, figurines of Type A[105] and the baby-faced type are extremely similar to Type A, D, and E in Middle Tres Zapotes.[106] Type A of the Valley of Mexico is usually associated with Middle Zacatenco times, while the baby faces appear mainly at Gualupita I, roughly of the same time period. Thus it might be inferred that Middle Zacatenco time and Middle Tres Zapotes are roughly contemporaneous, and, therefore, Early Zacatenco and Lower Tres Zapotes would be roughly coeval. As is probably obvious, the correlation of the various stages within the Pre-Classic time horizon seems to hinge on the problem of whether the highland

[103] Kroeber, 1940; Vaillant, 1941: 27; Armillos, 1948; Strong, 1943: 42; Wauchope, 1950.

[104] See appendix for description of traits.

[105] Vaillant, 1934.

[106] Drucker, 1943*a*.

Valley of Mexico sequence is contemporaneous with the whole sequence on the coast or with only the last two-thirds of it. Though very little is known of the formative sequence at Kaminaljuyu, I believe the same problem is present, that is, whether Las Charcas and Providencia of Kaminaljuyu are contemporaneous with all of the lowland Formative (at Uaxactun, particularly), or whether the early part of the lowland sequence is earlier than the earliest phase (so far found) at Miraflores.

The problem of correlating the lowland with the highland sequences is important particularly from the standpoint of determining cultural centers and direction of diffusion of early traits within or into Meso-America. Owing to the small amount of data from the Formative Periods and the great distances between the sites excavated, any attempt at deciding the matter or evaluating the two alternative temporal correlations is difficult, and any decision is at best very tentative. However, since the problem is a very important one and since it may stimulate constructive discussions or publications on the matter, an evaluation of the two alternatives seems worthwhile. In my opinion, these sets of data seem important. First of all, the La Venta-Tlatilco connection, suggesting a late Middle Tres Zapotes and early Middle Zacatenco temporal equation (thereby favoring Alternative 1), seems to be significant. Of course, further data on Tlatilco and La Venta are still very necessary. Secondly, Alternative 2 has some very obvious pecularities that to my mind make it untenable. This alternative forces one to assume (1) that there is a peculiar early one-way diffusion from the highlands to the lowlands, (2) that there is a considerable temporal gap between the inception of the traits in the highlands and their adoption on the east coast, and (3) that the area which apparently developed hieroglyphs and the calender is an area of ceramic cultural lag. Though these assumptions, necessary concomitants to Alternative 2, are within the realm of possibility, they do not seem probable and certainly make the early picture of cultural dynamics unnecessarily complex. On a logical basis, the principle of Ockham's Razor might be applied with good effect in this instance. On the other hand, the sequence of traits indicated in Alternative 1 and chart 11 shows a gradual development from relatively simple to more complex as far as the traits go and suggests wide contacts, mutual borrowing and little cultural lag over a wide area of Meso-America. To me this seems an entirely plausible picture in light of the archaeology of Mexico of the later periods. Thus I would tentatively favor Alternative 1, with the earliest periods on the coast being somewhat earlier than the earliest ones so far found in the highlands.

RELEVANCE OF THE DATA TO THE PROBLEMS

One of the primary concerns of the 1948–1949 expedition and the excavations at Panuco was with pre-pottery remains. However, even though two sites which had early Formative remains were tested, and a number of others reconnoitered, not one scrap of new evidence was brought to bear on the problem of the earlier preceramic cultures in Mexico in the Panuco area.

However, to recapitulate, new information concerning the secondary problems of Huastec-Maya relationships was brought to light by the Panuco archaeological endeavors. First, in the newly defined Ponce Period of Panuco there were found materials definitely related to those of the Mamom phase of Uaxactun in the Maya area. The Maya-like figurines at Panuco not only have a complex of many figurine features in common with those of the Maya that are not likely to have been invented independently, but also stand out in marked contrast to the multitude of un-Maya-like figurines of the Valley of Mexico, Cerro de las Mesas, La Venta, Tres Zapotes, later periods at Panuco and sites of Formative Stages in other regions north of the Isthmus of Tehuantepec. Secondly, the majority of vessel forms in the Ponce Period at Panuco are also present in the Mamom phase at Uaxactun. The black ware pottery is very similar. Loop handles, whistles, and the house type are alike. However, there are no trade sherds or exactly duplicated materials in Panuco from Uaxactun nor, as far as I know, is the converse true. Likely archaeological interpretations of these similarities and differences would seem to be either that Ponce (and Pavon?) and Mamom had only recently become separated and that an older common tradition was being continued in part, or that Ponce and Mamom represent local variations within the same culture area during the Village Formative Stage. Furthermore, on this same early level Ponce is related to Lower Tres Zapotes, while the many Lower Tres Zapotes' similarities to Mamom have been pointed out by Drucker.[107] On the basis of the Ponce-Lower Tres Zapotes-Mamom connections it seems reasonable to hypothesize that there was, in the Village Formative Stage, a culture area extending from Panuco to at least the Peten, and one might surmise that on an even earlier horizon the similarities were still greater. Carrying the historical reconstruction into the Temple Formative Stage, Tres Zapotes, Uaxactun, and Panuco show strong local developments which continue into the Proto-Classic period. Generally speaking, the Maya area shows mainly a local development with little outside influence from the North. Tres Zapotes seems to be influencing, and being influenced by, the Valley of Mexico, while at Panuco we have mainly a local development with some influence from southern Vera Cruz. In the Classic Stage, Uaxactun flowers, seemingly with many out-

[107] Drucker, 1943*a*.

side contacts, while upper Tres Zapotes and the Pithaya and Zaquil (Ekholm's Periods III and IV) of the Panuco-Tampico area show influences from Teotihuacan and/or from Tajin (a Teotihuacan derivative) on the central Vera Cruz coast. The final periods at Panuco see influences from the Valley of Mexico, while at that time in southern Vera Cruz the Soncautla complex appears to represent a replacement of the early materials by a culture that had developed elsewhere (perhaps to the west or northwest toward or in the Valley of Mexico).[108] At Uaxactun at this time the gradual abandonment of the site takes place.

With this cursory summary of the southern Vera Cruz, lowland Maya and Panuco sequences (of material culture) in mind, let us consider the Maya-Huastec linguistic relationship. In considering a correlation of linguistic data with archaeological sequences, the best that one can do is to indicate a series of probable inferences that appear to fit best both the linguistic and the archaeological information.

In dealing with the linguistic situation, one must in the beginning assume that any marked shift in language, such as the introduction of a new linguistic stock, would be at least somewhat reflected in the material culture. At Panuco, *only* in the Ponce Period are there many significant relationships to the Maya area, specifically to the Mamom phase of Uaxactun and Benque Viejo I*a*. Therefore, it seems probable that a Maya language was being spoken at Panuco at least as early as Ponce times. Since there is cultural continuity from Ponce times until practically historic times (i.e., the Panuco Period—Period VI of Ekholm) it seems likely that all the periods from Ponce to historic time represent the material remains of people speaking a Maya language. Furthermore, no periods later than Ponce show many resemblances to those of the Maya area. If, then, the Ponce Period and the Mamom phase represent the material remains of Maya-speaking peoples and the lower Tres Zapotes phases of southern Vera Cruz are archaeologically closely related to these two archaeological periods, it might be inferred that the people whose material remains compose the Lower Tres Zapotes phase spoke a Maya language. If this is true, then on the Ponce-Mamom-Lower Tres Zapotes time level there may have been a linguistic area of Maya-speaking peoples as well as a cultural area extending from at least the Peten to Panuco. Any such postulated linguistic area or cultural area is, of course, tentative, subject to closer scrutiny when more early archaeological information is available from areas or sites between each of the three sites mentioned previously.

At historic times, the Maya-speaking Huastec were resident in north Vera Cruz, the Totonac in the central Vera Cruz region, and Nahuatl-speaking people in southern Vera Cruz. In the southern Vera Cruz region at Tres Zapotes, the Soncaulta complex appears to be intrusive on the coast from the highlands at about Tula-Mazapan times and to have superseded the Lower, Middle, and Upper Tres Zapotes phases. If the Lower phase and subsequent Middle and Upper phases represent the remains of Maya-speaking peoples, then the intrusive Soncautla complex may represent the invasion of Nahuatl-speaking peoples onto the coast. This may represent one of the processes in southern Vera Cruz by which the Huastecs and Maya proper became separated.

Just when the ancestors of the Totonac invaded the coast (if they did) cannot be told on the basis of the present archaeological data. However, it may well be that Rancho de las Animas and Tajin, with their strong connections to Teotihuacan, represent that break between the Maya and Huastec in the central Vera Cruz area that took place during Classic times by central Mexican invaders.

In summary then, there seems to be some evidence for advancing the hypothesis that during Formative times there was a cultural area from the Peten to Panuco that was occupied by Maya-speaking peoples, and that during Classic times in central Vera Cruz this culture area was split by invaders (possibly Totonacs) from the Valley of Mexico, and that, finally, during the Militaristic stage,[109] the Huastec and Maya peoples became further separated by the invasion from the highlands into southern Vera Cruz of the Soncautla complex (perhaps Nahuatl-speaking peoples).

[108] Drucker, 1943*a*.

[109] Strong, 1943.

APPENDIX

A BRIEF DISCUSSION OF PRE-CLASSIC TRAITS IN MESO-AMERICA

Having already overloaded my readers with pages of charts and descriptions, I decided to relegate at least some of the drier data of the conclusion to an appendix. The materials here to be discussed and in part illustrated are the traits used in the seriation charts (chart 10 and chart 12). I will not only describe and illustrate the traits and give their temporal and geographical provenience but will also attempt to evaluate them.

Overlapping Cylindrical Punctate Decoration (see fig. 12, nos. 7–10).—This trait at present has little comparative value, occurring only in the earliest periods of Panuco and being the only type of decoration in the Pavon Period. I have included it in my chart for the reason that it shows a kind of decoration in use before that of incising in the Panuco region, which fact suggests that for other parts of Meso-America there may be a pre-incised pottery period.

Ollas the Dominant Vessel Form (see fig. 19).—In the early levels at Panuco, Pavon Period,[110] and at the Mani Cenote of Yucatan,[111] ollas appear to be the dominant vessel form. Thus it is possible that not only are ollas the dominant vessel form in at least two very early horizons, but that the shape of the dominant ollas is the same. However, whether this trait is really significant or not must await additional data on other early ceramic horizons.

Figurines Rare or Absent.—In the Pavon Period levels of Panuco, only three small fragments of figurines were found. In the monochrome levels of Lake Yojoa, Honduras figurines were equally scarce.[112] Figurines are evidently also absent from the Mani Cenote materials, as Brainerd made no mention of them in his speech at the International Congress of Americanists in New York in 1949. This negative trait is, I believe, significant, and future excavations will no doubt test its validity. All these last three traits mentioned above are at present of doubtful value owing to their limited occurrence, but in future excavations and analyses they should be kept in mind, for they well may be traits of a stage still earlier than the Village Formative or at least traits of the early part of the Village Formative Stage.

Flaring-sided Flat-bottomed Bowls (see fig. 35, no. 5).—Flaring-sided bowls, often with an everted lip and a flat bottom, are found at Panuco in the Pavon, Ponce, and Aguilar Periods. They have their greatest popularity in the early part of the Ponce Period (see fig. 17, no. 7–10). At Tres Zapotes this vessel form, called both wide everted lip bowls and flaring-sided bowls with flat bottoms, appears to be most popular in the Lower phase but carries on in decreasing amounts into the Upper phase[113] (see fig. 35). At Cerro de las Mesas, this vessel form is present in minor amounts in Lower I and in even less amounts in Lower II.[114] One feature of this vessel form, grooved or incised everted interior lips (absent at Panuco), appears to be shared by the early horizons both in southern Vera Cruz and in the Maya area, specifically Mamom and Benque Viejo I*a*. This probably is a good link between the two areas on the earliest horizons, but it appears too specialized to be applicable to all Meso-America. However, besides this special variant, the general form is very popular in the Mamom[115] and Benque Viejo I*a*[116] phases. After this time it decreases rapidly and is a minority vessel form in Mountain Cow 1,[117] San Jose I,[118] Benque Viejo I*b*,[119] and at Chicanel[120] (see fig. 35, O-R). With the exception of one pot from Holmul 1, it appears to be absent in this later horizon[121] (see fig. 35, AA). One sherd from the Charcas horizon of Guatemala which Shook sent me is of this vessel form. In regard to Honduras, cross-sections of sherds have not been published so these materials have been left out of figure 35. However, the majority of sherds from the Yojoa monochrome horizon seems to be from flaring-sided flat-bottomed bowls, for the authors state: "Of the 51 rim sherds, the great majority have low slightly flaring lips" while "the remaining 30 basal sherds are all from small flat-bottomed vessels."[122] Flaring-sided flat-bottomed bowls are not mentioned or illustrated as coming from the Ulua or Playa de los Muertos bichrome horizons, but one pot from burial five from Playa de los Muertos excavated by D. H. Popenoe is such.[123] At Monte Alban in Periods I and II, vessels of this shape are relatively frequent.[124] This frequent occurrence, in what I believe to be relatively late horizons, is rather surprising, in the light of the fact that such vessel forms are virtually absent in the Valley of Mexico. However, in looking over sherds from El Arbolillo I

[110] See this report fig. 19 and chart 5.

[111] Brainerd's paper at the International Congress of Americanists, N. Y., 1949.

[112] Strong, Kidder, and Paul, 1938: 114.

[113] Drucker, 1943*a*: 138–142.

[114] Drucker, 1943*b*: fig. 38 & 42.

[115] Ricketson, 1937: fig. 147; R. E. Smith, 1936*a*.

[116] E. Thompson, 1942: fig. 4*a–j*.

[117] Thompson 1931: pl. L I.

[118] Thompson, 1939: fig. 24*r* and 26*i*.

[119] Thompson, 1942: fig. 5*c–f*.

[120] Ricketson, 1937: fig. 158.

[121] Merwin and Vaillant, 1932: pl. 19.

[122] Strong, Kidder, and Paul, 1938: 112.

[123] Strong, Kidder, and Paul, 1938: fig. 17, K, and D. H. Popenoe says of burial 5, " . . . close against the right side was a flat bicolor dish," in Popenoe, 1934: 70.

[124] Caso, 1938: fig. 34, 1, 2 and 3 of the top row, fig. 37, top row 4 and bottom row 5, fig. 37 top row 1 and bottom row 7 and fig. 41, no. 1.

(?) I did find a thin white slipped sherd that conceivably might be of the vessel form under discussion (see fig. 35, no. 24). One vessel from Gualupita (fig. 23, no. 6, Vaillant, 1934) is of this form, but the period is not known.[125]

This trait, the frequent use of the vessel form of flaring-sided flat-bottomed bowls, is, I believe, an important early trait. In most areas the use of such a vessel form appears to begin very early and its greatest popularity seems to be in the earliest horizons. Only in the Tres Zapotes and Monte Alban areas does the vessel form seem to persist into later horizons. To me, the virtual absence of the vessel form in the Valley of Mexico would seem to mean that even the earliest horizons of that area are relatively not as early as Pre-Classic horizons from other areas. Of course, there may be some regional specialization.

Outsloping Straight-sided Flat-bottomed Bowls or Dishes (see fig. 35, no. 4).—This form is obviously related to one previously described. However, it seems to have a slightly longer life even though it started in early levels. I consider it to have less significance than the one previously described, though it is still a fairly good diagnostic of Pre-Classic ceramics. At Panuco it starts in the Pavon Period, reaches its greatest frequence in Ponce times and gradually diminishes, dying out in the El Prisco Period.[126] At Tres Zapotes, this vessel form is called a simple silhouette dish and, while appearing in both the Upper and Lower phases, seems to be most popular in the Middle phase.[127] This vessel form is present at Cerro de las Mesas, but the temporal provenience is not noted. In the Maya area, outsloping straight-sided flat-bottomed bowls or dishes are a minority class, appearing in the Mamom and Chicanel phases of Uaxactun,[128] and San Jose I;[129] one vessel from Mountain Cow I*b* (Holmul 1) [130] has a dish of this form with an effigy inside the bowl. In Honduras this vessel form seems to be absent in the Ulua and Playa de los Muertos bichrome horizons,[131] but may be present in the Yojoa monochrome assemblage.[132] At Monte Alban the vessel form is popular in both the earliest periods.[133] In the Valley of Mexico the only example of this vessel form is to be found in Middle Zacatenco times, though I suspect an examination of materials from earlier horizons might turn up a few of these dishes.[134]

Hemispherical Bowl (with Flat-bottoms?) (see fig. 35, no. 3).—This trait appears to be a good time marker for Village and Temple Formative Stages. The trait does not appear in two of the earliest horizons, the Yojoa monochrome and the Pavon Period of Panuco, and is absent in many of the Proto-Classic components. At Panuco it is present in the Ponce, Aguilar, and Chila horizons, being slightly more popular in the Ponce Period. At Uaxactun it is most frequent in the Mamom phase but is still present in the Chicanel phase.[135] It also appears in minor amounts in San Jose I*b*.[136] It is nowhere mentioned as belonging to the Holmul I horizon. At Tres Zapotes there is a general tendency for the bottoms of these bowls to be flat and large. The form appears as a minority in all three horizons, Lower, Middle, and Upper phases.[137] In the Valley of Mexico, one small bowl of this shape was found in Zacatenco I,[138] but bowls of this shape seem fairly common in El Arbolillo I, II,[139] and Zacateno II.[140] In Honduras, vessels of this form are illustrated for the Playa de los Muertos horizon.[141] They also are found in both Monte Alban I and II.[142]

Incurved-Rim Bowl (see fig. 35, no. 2).—This vessel form is no doubt related to the hemispherical bowls, but it has lesser chronological significance because of its random distribution and relatively rare occurrence at any horizon. However, it appears to be a vessel form that starts early and should be included as a trait of any early stage. At Panuco the shape appears in the Ponce, Aguilar, Chila, and El Prisco Periods and may even be present in the last part of the Pavon Period. At Tres Zapotes it is in the Lower, Middle, and Upper phases.[143] Related to this type and further connecting Lower Tres Zapotes of Southern Vera Cruz, and the Pavon, Ponce, and Aguilar Periods of Panuco with that of the Mamom and Chicanel phases of Uaxactun are incurved-rim bowls with a short everted lip. However, since the trait is not wide-spread, I have not included it in my charts.

In the Maya area the incurved-rim bowl seems rare at any period. From Benque Viejo I*a* there is one doubtful rim profile that may belong to this kind of a vessel,[144] while Ricketson illustrates a single bowl from the Chicanel phase of Uaxactun.[145] It is absent from later horizons in that area. In Honduras only one bichrome pot, illustrated by Gordon, seems to be of this

[125] Vaillant, 1934.

[126] See p. 585 of this publication. Also Ekholm, 1944: fig. 13, F.

[127] Drucker, 1943: 135–142 and fig. 34*a* & *b*.

[128] Ricketson, 1937: fig. 147, 3 & 4; fig. 158*d*.

[129] Thompson, 1939: fig. *26h*.

[130] Thompson, 1932: Pl. XLIV, pot in lower left-hand corner.

[131] Strong, Kidder, and Paul, 1939.

[132] Strong, Kidder, and Paul, 1939. They mention vertical and "direct" rims that evidently belong to flat-bottomed bowls or dishes, but clarification on this point seems necessary.

[133] Caso, 1938: fig. 34, 2; fig. 35, 2–3; fig. 37, 3–5; fig. 39, 4; fig. 41, 2.

[134] Vaillant, 1930: pl. VI *g*.

[135] Ricketson, 149*a, b, e, f*.

[136] Thompson, 1939: fig. 25.

[137] Drucker, 1943*a*: fig. 31*e*, 34*c*, 38*j*.

[138] Vaillant, 1930: pl. II*b*.

[139] Vaillant, 1935: fig. 21–3.

[140] Vaillant, 1930: pl. V *n;* IV *e, f;* VI *i, j*.

[141] Strong, Kidder, and Paul, 1938: fig. 18*g*, 1.

[142] Caso, 1938: 34,5; 35,7; 37,7; 39,5.

[143] Drucker, 1943*a*: 138–142—called incurved sided bowls in this report.

[144] Thompson, 1942: fig. 4*y*.

[145] Ricketson, 1937: 156 *d*.

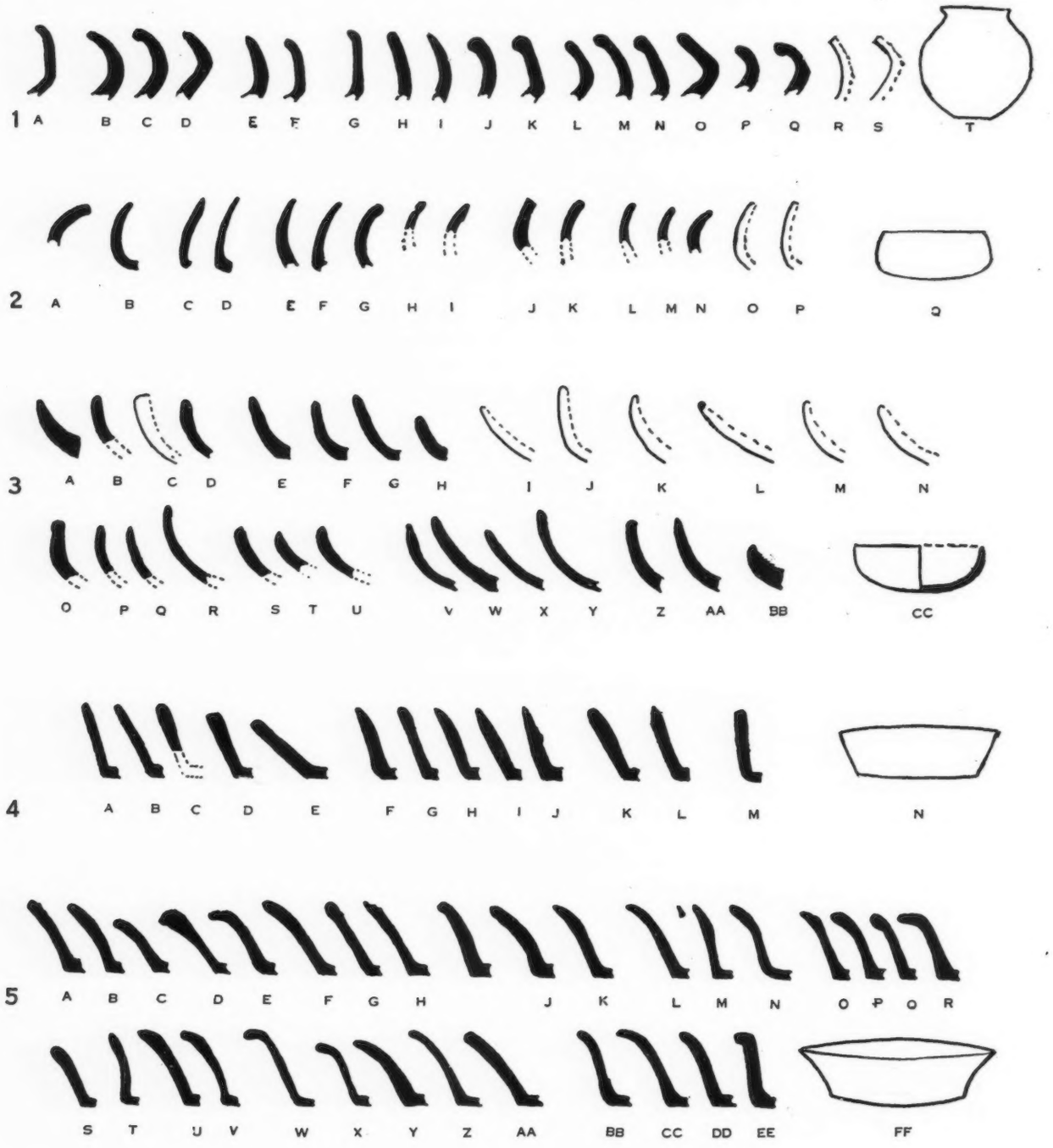

1 A B C D E F G H I J K L M N O P Q R S T
2 A B C D E F G H I J K L M N O P Q
3 A B C D E F G H I J K L M N
O P Q R S T U V W X Y Z AA BB CC
4 A B C D E F G H I J K L M N
5 A B C D E F G H J K L M N O P O R
S T U V W X Y Z AA BB CC DD EE FF

FIG. 35.

1. Early ollas with flaring neck, globular body, and flat or flattened bottoms.
   - (A) E. B. Ricketson, 1937, fig. 147*b*1. Mamom Phase at Uaxactun.
   - (B) E. B. Ricketson, 1937, fig. 147*a*5. Mamom Phase at Uaxactun.
   - (C) E. B. Ricketson, 1937, fig. 148*c*. Mamom Phase at Uaxactun.
   - (D) E. B. Ricketson, 1937, fig. 156*a*1. Chicanel Phase at Uaxactun.
   - (E) Drucker, 1943*a*, fig. 28*D*. Tres Zapotes, Vera Cruz.
   - (F) Drucker, 1943*a*, fig. 28*f*. Tres Zapotes, Vera Cruz.
   - (G) This report, fig. 17, no. 53. Early periods at Panuco.
   - (H) This report, fig. 17, no. 58. Early periods at Panuco.
   - (I) This report, fig. 17, no. 57. Early periods at Panuco.
   - (J) This report, fig. 17, no. 63. Early periods at Panuco.

(K) This report, fig. 17, no. 64. Early periods at Panuco.
(L) G. C. Vaillant, 1930, pl. I*z*. Early Zacatenco.
(M) G. C. Vaillant, 1930, pl. I*d'*. Early Zacatenco.
(N) G. C. Vaillant, 1930, pl. I*v*. Early Zacatenco.
(O) G. C. Vaillant, 1930, pl. VII*g'*. Late Zacatenco.
(P) G. C. Vaillant, 1930, pl. VII*p'*. Late Zacatenco.
(Q) G. C. Vaillant, 1931, pl. LXIX*o*. Ticoman.
(R) Caso, 1938, fig. 37, upper row second on the left. Monte Alban II.
(S) Caso, 1938, fig. 37, upper row second on the left. Monte Alban II.
(T) El Prisco pot from 1949 excavations at Laguna Tortuga, north of Panuco, Vera Cruz.

2. Incurved rim bowls.

(A) J. E. Thompson, 1942, fig. 4*y*. Benque Viejo 1*a*.
(B) E. B. Ricketson, 1937, fig. 156*d*. Chicanel phase at Uaxactun.
(C) Drucker, 1943*a*, fig. 31*f*. Tres Zapotes.
(D) Drucker, 1943, fig. 31*g*. Tres Zapotes.
(E) This report, fig. 17, no. 15, early periods at Panuco.
(F) This report, fig. 17, no. 16, early periods at Panuco.
(G) This report, fig. 17, no. 17, early periods at Panuco.
(H) Ekholm, 1944, fig. 5*a'*. El Prisco Period.
(I) Ekholm, 1944, fig. 5*z*. El Prisco Period.
(J) Vaillant, 1930, pl. II*h*. Early Zacatenco.
(K) Vaillant, 1930, pl. II*i*. Early Zacatenco.
(L) Vaillant, 1934, fig. 20*k*. Gualupita I.
(M) Vaillant, 1934, fig. 20*i*. Gualupita I.
(N) Vaillant, 1934, fig. 20*e*. Gualupita I.
(O) Caso, 1938, fig. 39, no. 6. Monte Alban II.
(P) Caso, 1938, fig. 39, no. 10. Monte Alban II.
(Q) Reconstruction of vessel from level 19, Ponce Period, at VC-2, Panuco, Vera Cruz.

3. Hemispherical bowls.

(A) Vaillant, 1930, pl. II*b*. Early Zacatenco.
(B) Vaillant, 1930, pl. V*l*. Middle Zacatenco.
(C) Vaillant, 1935, fig. 21–3. Middle El Arbolillo.
(D) Vaillant, 1930, pl. VI*j*. Early Zacatenco.
(E) Drucker, 1943*b*, fig. 18. Cerro de las Mesas.
(F) Drucker, 1943*b*, fig. 20. Cerro de las Mesas.
(G) Drucker, 1943*b*, fig. 14. Cerro de las Mesas.
(H) Drucker, 1943*b*, fig. 21. Cerro de las Mesas.
(I) Strong, Kidder and Paul, 1939, fig. 18*l*. Playa de los Muertos.
(J) Strong, Kidder and Paul, 1939, fig. 18*g*. Playa de los Muertos.
(K) Caso, 1938, fig. 34, no. 5. Monte Alban I.
(L) Caso, 1938, fig. 35, no. 7. Monte Alban I.
(M) Caso, 1938, fig. 37, no. 7. Monte Alban II.
(N) Caso, 1938, fig. 39, no. 5. Monte Alban II.
(O) E. D. Ricketson, 1937, fig. 149*a*. Mamom Phase of Uaxactun.
(P) E. D. Ricketson, 1937, fig. 149*b*. Mamom Phase of Uaxactun.
(Q) E. D. Ricketson, 1937, fig. 149*e*. Chicanel Phase of Uaxactun.
(R) E. D. Ricketson, 1937, fig. 149*f*. Chicanel Phase of Uaxactun.
(S) Thompson, 1939, fig. 25*r*. San Jose I.
(T) Thompson, 1939, fig. 25*p*. San Jose I.
(U) Thompson, 1939, fig. 25*n*. San Jose I.
(V) Drucker, 1943*a*, fig. 31*e*. Tres Zapotes.
(W) Drucker, 1943*a*, fig. 34*c*. Tres Zapotes.
(X) Drucker, 1943*a*, fig. 38*i*. Tres Zapotes.
(Y) Drucker, 1943*a*, fig. 38*j*. Tres Zapotes.
(Z) This report, no. 13 of fig. 17. Panuco.
(AA) This report, no. 14 of fig. 17. Panuco.
(BB) This report, no. 38 of fig. 17. Panuco.
(CC) Vaillant, 1930, pl. V*n*. Middle Zacatenco.

4. Outsloping straight-sided, flat-bottomed bowls or dishes.

(A) Ricketson, 1937, fig. 147*d*3. Mamom Phase of Uaxactun.
(B) Ricketson, 1937, fig. 147*d*4. Mamom Phase of Uaxactun.
(C) Ricketson, 1937, fig. 158*d*. Chicanel Phase of Uaxactun.
(D) Thompson, 1939, fig. 26*h*. San Jose I.
(E) Thompson, 1931, pl. XLIV, lower left. Mountain Cow 1*b*, Homul I.
(F) This report, no. 1 of fig. 17. Panuco.
(G) This report, no. 2 of fig. 17. Panuco.
(H) This report, no. 3 of fig. 17. Panuco.
(I) This report, no. 4 of fig. 17. Panuco.
(J) This report, no. 6 of fig. 17. Panuco.
(K) Drucker, 1943*a*, fig. 34*b*. Tres Zapotes.
(L) Drucker, 1943*a*, fig. 34*a*. Tres Zapotes.
(M) Vaillant, 1930, pl. VI*g*. Middle Zacatenco.
(N) Caso, 1938, fig. 41, no. 2. Monte Alban II.

5. Outflaring-sided flatbottomed bowls.

(A) Drucker, 1943, fig. 20*a*. Tres Zapotes.
(B) Drucker, 1943, fig. 20*j*. Tres Zapotes.
(C) Drucker, 1943, fig. 20*i*. Tres Zapotes.
(D) Drucker, 1943, fig. 20*d*. Tres Zapotes.
(E) Drucker, 1943, fig. 20*g*. Tres Zapotes.
(F) Drucker, 1943, fig. 31*b*. Tres Zapotes.
(G) Drucker, 1943, fig. 38*e*. Tres Zapotes.
(H) Drucker, 1943, fig. 38*f*. Tres Zapotes.
(I) Caso, 1938, fig. 34, no. 3. Monte Alban I.
(J) Caso, 1938, fig. 37, no. 10. Collections of Am. Mus. of Natural History, N. Y. El Arbolillo.
(L) Drucker, 1943*b*, fig. 38. Cerro de las Mesas.
(M) Drucker, 1943*b*, fig. 42. Cerro de las Mesas.
(N) This report, no. 7 of fig. 17. Panuco.
(O) Ricketson, 1937, fig. 153*a*. Chicanel Phase of Uaxactun.
(P) Ricketson, 1937, fig. 153*b*. Chicanel Phase of Uaxactun.
(Q) Ricketson, 1937, fig. 153*c*. Chicanel Phase of Uaxactun.
(R) Ricketson, 1937, fig. 153*e*. Chicanel Phase of Uaxactun.
(S) Ricketson, 1937, fig. 147*d*1. Mamom Phase of Uaxactun.
(T) Ricketson, 1937, fig. 147*d*2. Mamom Phase of Uaxactun.
(U) Ricketson, 1937, fig. 147*d*5. Mamom Phase of Uaxactun.
(V) Ricketson, 1937, fig. 147*d*6. Mamom Phase of Uaxactun.
(W) Ricketson, 1937, fig. 157*c*. Chicanel Phase of Uaxactun.
(X) Thompson, 1939, fig. 24*r*. San Jose I.
(Y) Thompson, 1939, fig. 26*i*. San Jose I.
(Z) Thompson, 1931, pl. LI. Mountain Cow 1*a*.
(AA) Vaillant and Merwin, 1932, pl. 19. Holmul I.
(BB) This report, no. 10 of fig. 17.
(CC) This report, no. 8 of fig. 17.
(DD) This report, no. 9 of fig. 17.
(EE) This report, no. 5 of fig. 17.
(FF) Strong, Kidder, and Paul, 1938, fig. 17, K.

vessel form.[146] In the Valley of Mexico, incurved-rim bowls are found in all periods, though they appear to be most numerous in Middle Zacatenco times.[147] At Monte Alban this form appears in Periods I and II.[148]

Flaring-necked Globular-bodied Flat-bottomed Ollas (see fig. no. 1).—Of the various vessel forms appearing early, this is the least significant, for these storage jars, often with a coarse paste and scratched surface, appear in all periods throughout Meso-America. This form is included in my chart as its use appears to begin very early and because it is an important (often dominant) vessel form that must be included in any early complexes of traits or vessel forms. I will not bother to note its distribution and I believe figure 35, no. 1 A–T will be as instructive as any wordy discussion of it.

Incised Decoration.—This trait is of limited value but appears to start early, though it is lacking in the Pavon and Yojoa Monochrome horizons. It appears to be present in almost every early culture except these two. On the basis of present data and reports available the trait is almost worthless, but I believe a thorough study of decoration technique (post- or pre-firing incising) and design elements might be very worth while.

Monochrome Red Wares.—This trait is weak in that the pastes of red ware sherds from the various areas are rather different. Whether the red surface is made by a thin wash, red slip, or red paint is usually not noted in the reports, and in the few sherds of early horizons I have seen all three variants appear. However, red monochrome wares are present everywhere early, and I believe that the exclusive use of red surfacing, or near-exclusive use of red surfacing (monochrome white or black also appearing), and the lack of bichrome or polychrome painting, fresco decoration, negative painting etc., make this a significant trait in the earlier stages in Middle America.

At Panuco, monochrome red painting appears in the Ponce and Pavon Periods on some of the Heavy Plain sherds, while in Chila and Aguilar times it is not only on Heavy Plain sherds but also on Aguilar Red. At Tancol of El Prisco times, it appears to be absent, while at the El Prisco site and levels 13–17 of the Pavon site a small proportion of miscellaneous red ware sherds appear.[149] In Lower Tres Zapotes, brown ware with a red slip is a minority ware which continues on into Middle and Upper Tres Zapotes in about the same amounts.[150] At Uaxactun, red ware is very important in both the Chicanel and Mamom Periods [151] and is also present in Holmul I Period.[152]

In the Bay Island region of Honduras, red ware is found in the Yojoa, Playa de los Muertos (there called sub-type 2—slipped and polished orange-red to brown ware) and in the Ulua Bichrome horizons but appears to be diminishing in the latter period.[153]

Red ware appears to be present in all the early periods in the Valley of Mexico, being at El Arbolillo I and II,[154] Zacatenco I, II, III [155] (called russet ware and polished red), and at Ticoman (red group varieties, polished red, and dull red).[156] It also appears in Monte Alban I & II in minor amounts.[157]

Monochrome White Ware.—Like the trait monochrome red ware, this trait has weak and strong points for about the same reasons. At Panuco white wares are dominant in the Pavon, Ponce, Aguilar, and Chila Periods and die out early in the El Prisco Period. There is a general tendency for a white slip gradually to replace a white wash, and for a larger tempered coarse paste to replace a fine tempered coarse paste. At Tres Zapotes, brown ware with a white slip is found in the Lower, Middle, and Upper phases.[158] From my cursory observation it appears there is a general tendency for the slip to get better from early to late. In the Valley of Mexico, white ware appears in all phases of El Arbolillo and Zacatenco, being slightly more prevalent in the earlier stages than the later ones. Both thin slipped (washed) and thick slipped appear.[159] At Ticoman, white wares are found, though they are rather different from those of the earlier period.[160] At Uaxactun, monochrome white ware is very rare. R. E. Smith has stated that such does not occur in Mamom nor in Chicanel deposits, but Ricketson lists some white wares as coming from Uaxactun 1*b*, which is roughly the same as the Chicanel Period of Smith.[161] Thompson records sherds from San Jose I, roughly correlated with Chicanel, as ranging from "light buff to old ivory" which approximates white wares.[162] Even so, this trait of monochrome white ware, found in so many early Meso-American ceramic congeries, seems to be strangely lacking or in a definite minority in the Maya region. Further south, the Yojoa Monochrome horizon has two sherds of dull white slip or wash,[163] while ware "with a chalky white wash" is noted in the Playa de los Muertos Bichrome horizon.[164] White wares are not noted at Santa Rita in the Ulua Bichrome horizon. At Monte Alban in Periods I and II, a white slipped ware is found [165] which Caso believes to be similar to Chila White.[166]

[146] Gordon, 1898: pl. VII *m*.
[147] Vaillant, 1930: pl. II*i*, pl. IV*f*, pl. V*m*; Vaillant, 1931: pl. LXXVIII*e*.
[148] Caso, 1938: fig. 37.
[149] Ekholm, 1944.
[150] Drucker, 1943*a*: 138–142.
[151] Ricketson, 1937; Smith, 1936.
[152] Merwin and Vaillant, 1932.
[153] Strong, Kidder, and Paul, 1938.
[154] Vaillant, 1935: 222.
[155] Vaillant, 1930.
[156] Vaillant, 1931: 343.
[157] Caso, 1938.
[158] Drucker, 1943*a*.
[159] Vaillant, 1935: 227; Vaillant, 1930: 32, 40, 56.
[160] Vaillant, 1931: 288, 289.
[161] Ricketson, 1937: 251.
[162] Thompson, 1939: 85.
[163] Strong, Kidder and Paul, 1931: 113.
[164] Strong, Kidder and Paul, 1931: 73.
[165] Caso, 1938.
[166] Ekholm, 1944.

Monochrome Black Ware (Reduced Firing Atmosphere).—Superficially, this trait appears to be similar to monochrome red and monochrome white and of equal significance. Actually, the trait is much more important than either of the others for it not only has a fairly well defined temporal position, but is a trait composed of a complex of other features. Monochrome black ware not only has a highly polished black surface but has been fired in a well controlled reducing atmosphere. It is often fairly thin and in many cases bears engraved (post-firing incised) decoration. In many areas this early black ware, with engraved decoration fired in a well controlled reducing atmosphere, develops into a brownish-black ware, either not fired in a reducing atmosphere or in a poorly controlled atmosphere and lacking engraved decoration. Monochrome black is absent from what seems to be the earliest horizons, the Pavon Period of Panuco and the Yojoa Monochrome horizon of Honduras. At Panuco the Ponce Black type is mainly confined to the Ponce and Aguilar Periods, though appearing in minor amounts in the Chila Period. This type appears to develop into the El Prisco Black type of the El Prisco Period which has a coarser, more compact paste and was fired in a very poorly controlled reducing atmosphere so that sherds range from red to black in color, though the dominant color is black.[167] The similarity of the black ware at Tres Zapotes to that of Ponce Black has already been commented on. At Tres Zapotes Black ware appears in the Lower, Middle, and Upper horizons.[168] The black ware sherds from Mamom and Chicanel that R. E. Smith sent me are exceedingly similar to both those in the early levels at Panuco and Tres Zapotes in that they were fired in a reducing atmosphere, have minute temper, a porous paste, a highly polished black surface, and bear engraved decorations. Holmul I apparently lacks this black ware. In the Valley of Mexico, the early and middle periods of El Arbollilo[169] and Zacatenco[170] have finely tempered pottery fired in a reducing atmosphere which is polished black and bears engraved decoration. Like Panuco, the late Pre-Classic periods of the Valley of Mexico, late Zacatenco and Ticoman see the transition of the early black ware into black-brown wares which have large temper, poorly controlled firing and surfaces ranging from brown to black.[171] Playa de los Muertos, Ulua bichrome and Monte Alban I and II horizons have black wares which bear engraved decoration, but whether or not they were fired in a reducing atmosphere is not stated.

Flaring to Straight-sided Bowls with Convex Bottoms (Composite Silhouette Bowls) (see fig. 36, no. 4).—This trait, though starting in the Village Formative Stage, seems to be more characteristic of the Temple Formative Stage, at which time it is very popular. At Panuco this kind of vessel first appears in the Ponce Period, reaches dominance in the Aguilar Period, and then gradually diminishes through the Chila and El Prisco Periods. At Uaxactun, in the Pre-Classic times composite silhouette bowls appear to be absent. However, at Benque Viejo I*a* and I*b* this form seems to be present, being slightly more popular in Benque Viejo I*b* than in the previous period.[172] The form is also present in San Jose I[173] and in Holmul I period at both Holmul[174] and Mountain Cow.[175] In Honduras this kind of composite silhouette bowl is present in the Playa de los Muertos horizon,[176] while at Tres Zapotes the form is present in the Lower, Middle, and Upper phases.[177]

In the Valley of Mexico, this vessel form is present in all Pre-Classic horizons.[178] At Monte Alban this form is in both Periods I and II, though in very small amounts.[179]

Small Human-face Effigy Jars.—This peculiar vessel form seems to be a good Village Formative Stage diagnostic. At Panuco, sherds of small human-faced effigies are found in the Ponce, Aguilar, and Chila deposits. They are very rare in Chila Period levels, only one fragment being found. At Tres Zapotes, vessels of this form appear confined to the earliest period[180] but at Uaxactun they appear in both the Mamom and Chicanel phases.[181] In the Valley of Mexico, small human-faced effigies are confined to Zacatenco I[182] and Early and Middle Arbolillo.[183] At Monte Alban they seem to be lacking, while in Honduras human effigy vessels, though usually quite ornate, are found in the Playa de los Muertos horizon.[184]

Unbridged Spouted Vessels.—This trait is of doubtful value for determining sub-divisions of the Pre-Classic but contrasts rather well with later Classic bridged spouted vessels. The trait is also questionable in that it has a spotty distribution and seems to have a southern rather than a northern distribution. At Panuco these vessel forms appear to be absent unless the cylindrical object from the Ponce Period is part of such. I rather doubt that it is. Spouted vessels are absent from the Valley of Mexico (Cholula I excepted). Monte Alban also seems to be without this form. However, they are found in Lower and Middle Tres Za-

[167] Ekholm, 1944: 345.
[168] Drucker, 1943*a*: 59–69.
[169] Vaillant, 1935: 223.
[170] Vaillant, 1930: 32.
[171] Vaillant, 1931: 286–287.
[172] Thompson, 1942: fig. 4*h*, 5*e*, *c*, *g*.
[173] Thompson, 1939: fig. 28*b*, *c*, *d*.
[174] Merwin & Vaillant, 1932: pl. 18*b*.
[175] Thompson, 1931: pl. XLI.
[176] Strong, Kidder, and Paul, 1938: fig. 17*k* and *l*.
[177] Drucker, 1943*a*: 32*a*, *d*; 34*e*; 38.
[178] Vaillant, 1930.
[179] Caso, 1938: 34, 3; 37, 5; 39, 9.
[180] Drucker, 1943*a*: 142.
[181] Ricketson, 1937: 214–215, pl. 76.
[182] Vaillant, 1930: pl. XVI bottom row 4.
[183] Vaillant, 1935: fig. 14, 20–22, Middle Arbolillo.
[184] Strong, Kidder, and Paul, 1938: fig. 18.

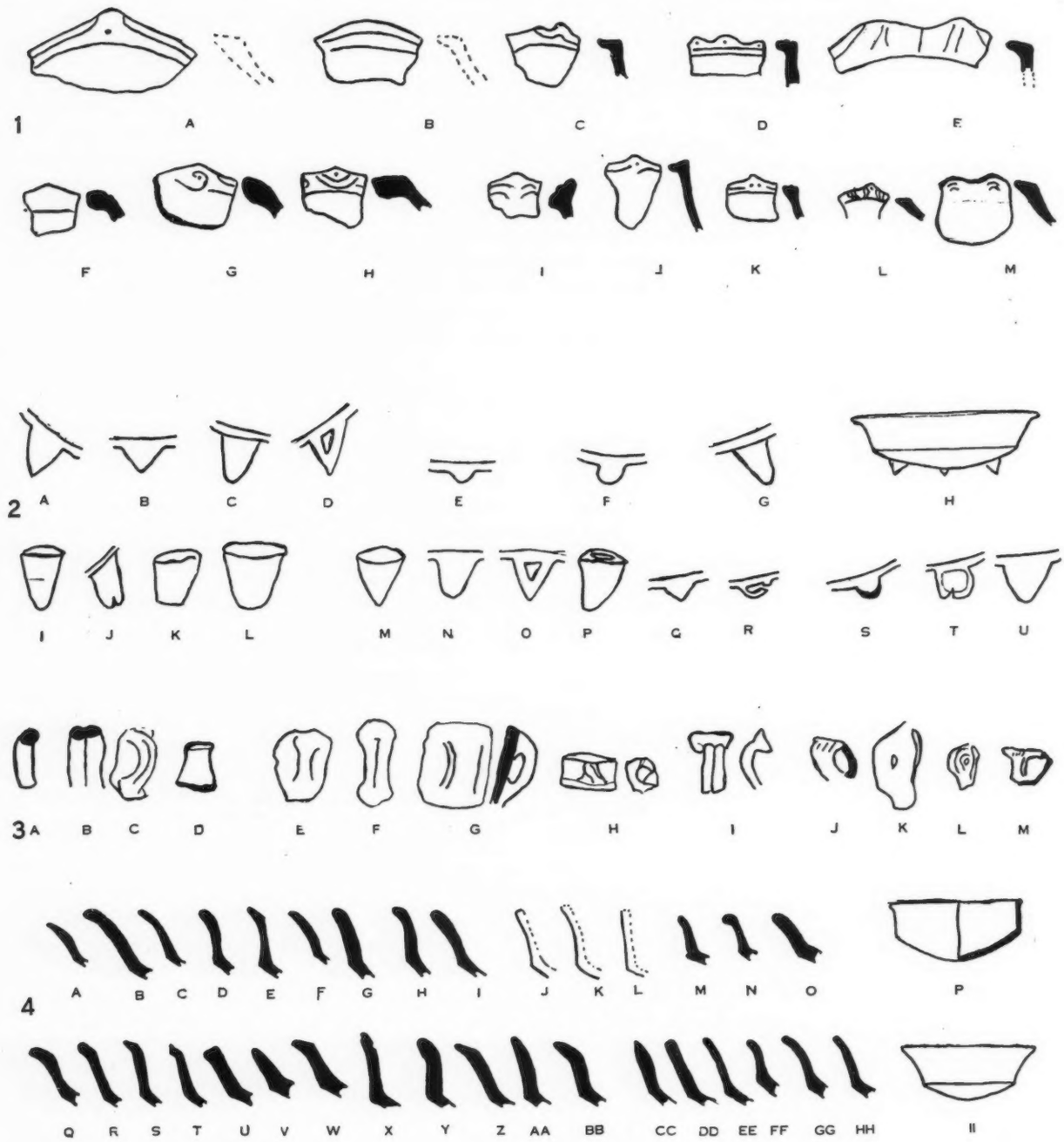


FIG. 36.

1. Incised (and punctated) thickened lips with horizontal external projections.
   - (A) Strong, Kidder, and Paul, 1939, pl. 10*h*. Playa de los Muertos.
   - (B) Strong, Kidder, and Paul, 1939, pl. 9*i*. Ulua bichrome.
   - (C) Strong, Kidder, and Paul, 1939, pl. 9*n*. Ulua bichrome.
   - (D) Weiant, 1943, fig. 39. Middle (?) Tres Zapotes.
   - (E) Weiant, 1943, fig. 42c. Middle (?) Tres Zapotes.
   - (F) Ricketson, 1937, fig. 159*d*. Chicanel Phase of Uaxactun.
   - (G) Thompson, 1939, fig. 24*o*. San Jose I.
   - (H) Thompson, 1939, fig. 24*p*. San Jose I.
   - (I) This report. Aguilar Period see fig. 15, 7–9.
   - (J) From Chila Period mentioned in this report but specimen in the collections of the National Museum of Mexico.
   - (K) Ekholm, 1944, fig. 28–*s*. Tancol complex of early El Prisco.

potes [185] and the Mamom and Chicanel Phases of Uaxactun,[186] and are abundant in the Playa de los Muertos bichrome horizons of Honduras.[187]

Pierced and Unpierced Potsherd Discs.—They appear in all Pre-Classic horizons. The trait is of doubtful value except that it seems to be a characteristic of the Formative and to have begun early. It appears to be replaced by spindle whorls in Classic and later periods.

Figurines.—Figurines are perhaps the most sensitive to cultural change and areal specialization of any Pre-Classic class of artifacts. An intensive study of Pre-Classic figurines, not unlike that which Hay and Vaillant did for the Valley of Mexico twenty years ago, I believe might be very profitable and perhaps may be the best way of correlating the various periods or phases of the early horizons. At present, the figurine situation is somewhat confusing, for illustrations usually do not show cross-sections, the paste of figurines is not mentioned, size is often not indicated, and the terminology is sometimes confusing for alphabetic enumeration has been used for different figurine types of various areas (for example, see Vaillant's Type C for the Valley of Mexico, Ekholm's Type C for Panuco, and Drucker's Type C for Tres Zapotes).

Specific resemblances to the Panuco figurines have been mentioned early in this report. I am not qualified to analyze other Middle American figurines at such a specific level. The best I can do is to mention some broad generalities about Meso-American figurines, based on my rather superficial observations.

Generally speaking, two major classes of figurines seem to have chronological implications. The earlier one of these that seems to be more or less characteristic of the Village Formative and early part of the Temple

[185] Drucker, 1943*a*.
[186] Ricketson, 1937.
[187] Strong, Kidder, and Paul, 1938: fig. 18 and pl. 10.

(L) Vaillant, 1930, pl. II*e*. Early Zacatenco.
(M) Vaillant, 1930, pl. II*d*. Early Zacatenco.

2. Small vessel feet.
(A) Vaillant, 1935, fig. 19, no. 1. El Arbolillo I.
(B) Vaillant, 1930, pl. V*b*. Middle Zacatenco.
(C) Vaillant, 1930, pl. IV*q*. Middle Zacatenco.
(D) Vaillant, 1930, pl. VIII*e*. Late Zacatenco.
(E) Strong, Kidder, and Paul, 1939. Reconstruction from pl. 10, Playa de los Muertos.
(F) Caso, 1938, fig. 35, no. 4. Monte Alban I.
(G) Caso, 1938, fig. 35, no. 6. Monte Alban I.
(H) Vaillant, 1930, pl. V*a*. Middle Zacatenco.
(I) Ricketson, 1937, fig. 153*a*.—According to R. E. Smith Chicanel Phase of Uaxactun.
(J) Ricketson, 1937, fig. 153*d*.—According to R. E. Smith Chicanel Phase of Uaxactun.
(K) Ricketson, 1937, fig. 153*h*.—According to R. E. Smith Chicanel Phase of Uaxactun.
(L) Ricketson, 1937, fig. 153*i*.—According to R. E. Smith Chicanel Phase of Uaxactun.
(M) See fig. 14, 6 of this report. Aguilar and Chila Periods of Panuco.
(N) See fig. 14, 10 of this report. Aguilar and Chila Periods of Panuco.
(O) See fig. 14, 3 of this report. Aguilar Period of Panuco.
(P) Ekholm, 1944, fig. 4. Chila Period of Panuco.
(Q) Ekholm, 1944, fig. 5*u*. El Prisco Period of Panuco.
(R) Ekholm, 1944, fig. 5*x*. El Prisco Period of Panuco.
(S) Drucker, 1943*a*, fig. 17*j*. Middle Tres Zapotes or later.
(T) Drucker, 1943*a*, fig. 17*a*. Middle Tres Zapotes or later.
(U) Drucker, 1943*a*, fig. 30*c*. Middle Tres Zapotes or later.

3. Handles.
(A) See fig. 16 of this report. Aguilar, Chila and El Prisco.
(B) See fig. 16 of this report. Mainly Chila.
(C) Ekholm, 1944, fig. 4*G'*. Chila.
(D) Ekholm, 1944, fig. 4*T*. Chila and El Prisco.
(E) Ricketson, 1937, fig. 152*f*. Mamon Phase.
(F) Ricketson, 1937, fig. 152*d*. Mamon Phase.
(G) Thompson, 1939, fig. 22*g*. San Jose I.
(H) Thompson, 1939, fig. 22*n*. San Jose I.
(I) Thompson, 1939, fig. 22*l*. San Jose I.
(J) Vaillant, 1930, pl. I*c*. Early Zacatenco.
(K) Vaillant, 1934, fig. 18*g'*. Gualupita I.
(L) Vaillant, 1934, fig. 18*j*. Gualupita I.
(M) Vaillant, 1931, pl. LXIX*x*. Ticoman.

4. Outflaring side composite silhouette.
(A) Vaillant, 1930, pl. I*h*. Early Zacatenco.
(B) Vaillant, 1930, pl. I*m*. Early Zacatenco.
(C) Vaillant, 1930, pl. II*o*. Early Zacatenco.
(D) Vaillant, 1930, pl. IV*p*. Middle Zacatenco.
(E) Vaillant, 1930, fig. 20*m*. Gualupita I.
(F) Vaillant, 1930, pl. IV*d*. Middle Zacatenco.
(G) Vaillant, 1930, pl. VIII*d*. Late Zacatenco.
(H) Vaillant, 1931, pl. LXXII*d*. Ticoman.
(I) Vaillant, 1931, pl. LXXIII*m*. Ticoman.
(J) Caso, 1938, fig. 39, no. 9. Monte Alban II.
(K) Caso, 1938, fig. 34, no. 4. Monte Alban I.
(L) Caso, 1938, fig. 37, no. 5. Monte Alban II.
(M) Ekholm, 1944, fig. 5*R*. El Prisco Period.
(N) Ekholm, 1944, fig. 5*N*. El Prisco Period.
(O) Ekholm, 1944, fig. 4*F*. Chila Period.
(P) Vaillant, 1930, pl. VI*h*. Middle Zacatenco.
(Q) Thompson, 1945, fig. 4*h*. Benque Viejo 1*a*.
(R) Thompson, 1945, fig. 5*e*. Benque Viejo 1*b*.
(S) Thompson, 1945, fig. 5*c*. Benque Viejo 1*b*.
(T) Thompson, 1945, fig. 5*g*. Benque Viejo 1*b*.
(U) Thompson, 1942, fig. 28*d*. San Jose I.
(V) Thompson, 1942, fig. 28*c*. San Jose I.
(W) Thompson, 1942, fig. 28*b*. San Jose I.
(X) Drucker, 1943*a*, fig. 38*p*. Tres Zapotes.
(Y) Drucker, 1943*a*, fig. 38*o*. Tres Zapotes.
(Z) Drucker, 1943*a*, fig. 32*d*. Tres Zapotes.
(AA) Drucker, 1943*a*, fig. 34*c*. Tres Zapotes.
(BB) Drucker, 1943*a*, fig. 32*a*. Tres Zapotes.
(CC) This report, no. 4 of fig. 17. Ponce to Chila.
(DD) This report, no. 2 of fig. 17. Ponce to Chila.
(EE) This report, no. 7 of fig. 17. Ponce to Chila.
(FF) This report, no. 12 of fig. 17. Ponce to Chila.
(GG) This report, no. 8 of fig. 17. Ponce to Chila.
(HH) This report, no. 9 of fig. 17. Ponce to Chila.
(II) Reconstructed vessel form from level 9. Aguilar. Period at VC-2, Panuco.

Formative Stage has a series of recognizable features. These figurines are large in size (heads over 1½ inches tall) and are solid and hand modelled. The paste, generally speaking, is coarse; lips are appliquéd and noses roughly triangular. The eyes are the most distinctive feature, being two roughly lens-shaped impressions with a large central punctation. The lens-shaped impressions appear to have been made by impressing isosceles-triangular shaped objects into the clay with their apexes pointing in opposite directions and more deeply impressed than their bases. The bases overlap, and the same axis of the triangles continues through each of them. The large perforation has its center at the junction of the bases of the triangles and their main axis, and the edge of the central perforation is roughly tangent to the ends of the bases of the triangles.

Figurines of this general class are to be found in the Mamom phase of Uaxactun.[188] This also is the kind of figurines found in the Ponce Period at Panuco (see fig. 21). At Tres Zapotes, the Type C figurines and some of the Type A, predominant in the Lower phase, appear to belong to this class.[189] In Honduras this seems to be the type of figurine associated with the Playa de los Muertos horizon[190] and possibly with the Yojoa Monochrome horizon.[191] In the Valley of Mexico, only the early Zacatenco Di types appear to belong to this class.[192] Some of the Type A variants from various sites in the Valley of Mexico may also fall into this class.[193] Many of the figurines from El Salvador that I inspected at the American Museum of Natural History in New York also seem to be of this class.

The second general class is generally later than the first, being present in Temple Formative and Proto-Classic horizons. In some areas, particularly the Maya, this class (and all other classes) seems to be absent in the late Formative Period. The class itself is more difficult to describe. Generally speaking, heads are small (under 1½ inches tall), the paste is compact and surfaces are often polished. All are hand modelled and usually are solid (though hollow ones may appear). The eyes are usually like an inverted wide *V*. An eye may be made by just two elliptical punctates, both pointing downward in opposite directions, or may have a single round punctation at the apex between the two elliptical punctates pointing downward in opposite directions. This second class is not so uniform or distinctive as the early class. Perhaps regional specialization is greater on this later horizon.

At Panuco this class of figurines is mainly in the El Prisco Period[194] and Types A, B, and C are very good examples of it. It appears only rarely in Chila and Aguilar times. In the late levels of the Ponce Period, only one figurine, a variety of the puffed cheeked type, is even vaguely similar. At Tres Zapotes, the type is mainly in the Middle and Late horizons, though some of the Type A in the Lower phase seem to fall into this class. Generally speaking at Tres Zapotes some of Type A, B, F, and D[195] and at Cerro de las Mesas, G and H, belong to this class.[196] In the Valley of Mexico, I consider most of the variants of Types C, A, E, H, and I, remaining from Early Zazatenco to Ticoman times, to belong to this class.[197]

Handles, Loop, Strap, and Otherwise (fig. 36, 3).—In at least three areas of Meso-America there is a tendency for loop handles to appear before double loop and strap handles. At Panuco handles of any sort are absent from the Pavon Period and only one very doubtful handle appeared in the Ponce Period. However, in the Aguilar Period loop handles are definitely present and they continue through the El Prisco Period. Double loop handles and strap handles do not begin until the Chila Period and from collections I have seen in the Huasteca it appears that all three kinds continue into El Prisco times. In the Valley of Mexico, Early Zacatenco and El Arbolillo have loop handles, often with finger-like incisions at the junction of the handle and lip of the vessel. These continue through Ticoman times.[198]

In Middle Arbolillo[199] and Gualupita I,[200] two examples of double loop handles are illustrated, while strap handles do not appear until Ticoman times.[201]

In the Maya area, loop handles appear in the Mamon phase[202] and evidently continue through Homul I times.[203] Chicanel handles have not been noted but probably exist as double loop, and strap handles are to be found in the temporal equivalents at San Jose I[204] and Benque Viejo I*b*.[205].

Different kinds of handles in other parts of Mexico have a rather spotty distribution, and handles do not seem numerous. At Tres Zapotes, handles are absent from the Lower phase while loop handles occur in both the Upper and Middle phases.[206] No strap handles or double loop handles are found, though one twisted triple loop handle was found in Middle Tres Zapotes deposits.[207] Handles are absent at La Venta.[208] At Monte Alban, there seems to be one strap handle in

[188] Ricketson, 1937: pl. 73.
[189] Drucker, 1943*a*: pl. 26 and 35.
[190] Gordon, 1898: pl. X*a, b, c, d, h,* and *i*.
[191] Strong, Kidder, and Paul, 1938: pl. 15*e*.
[192] Vaillant, 1930: pl. XVIII, top row 3 and 5, bottom row 4 and pl. XIX, top row 7.
[193] Vaillant, 1930: pl. XXI, third row 4 and 8, bottom row 1, 4 and 5.
[194] Ekholm, 1944: 436–459.
[195] Drucker, 1943*a*: 78–80.
[196] Drucker, 1943*b*: 63–64.
[197] Vaillant, 1930; Vaillant, 1931.
[198] Vaillant, 1930: pl. I*c*.
[199] Vaillant, 1935: 22,6 or p. 221.
[200] Vaillant, 1934: fig. 18*j*.
[201] Vaillant, 1931: pl. LXIX*x*.
[202] Ricketson, 1937: fig. 152.
[203] Vaillant and Mervin, 1932.
[204] Thompson, 1939: fig. 22.
[205] Thompson, 1942: fig. 5.
[206] Drucker, 1943*a*: 42.
[207] Drucker, 1943*a*: 56.
[208] Drucker, 1947.

Monte Alban I, but my information is based only on the illustrated materials.[209] In Honduras, handles are lacking in the Yojoa Monochrome horizons,[210] while loop and strap handles appear in the Playa de los Muertos horizons,[211] and only strap handles in the Ulua Bichrome horizon.[212]

Generally speaking, I consider handles to be fairly good time markers, being characteristic of the Temple Formative and Proto-Classic Period. The occurrence of loop handles in the Mamom phase leads me to conclude that they were invented in that general region.

Small Tripod Feet (fig. 36, 2).—This trait I consider to be a good time marker and its absence a diagnostic of the Village Formative Period. As shall be shown, there is considerable regional variation in the first kind of feet that appear in the various regions, but all are small and are tripod supports. In some areas early types continue on into later periods, but generally small tripod feet are diagnostic of the Temple Formative Stage. At Panuco, vessel feet do not appear until the Aguilar Period. Then short solid conical feet begin to appear. Appearing later in the period are short hollow conical feet and short solid conical feet that have been pierced. (Long solid conical feet are also present.) These three types of feet continue into the Chila and El Prisco Periods. At Uaxactun, vessel feet do not appear until the Chicanel Period according to R. E. Smith.[213] Taking the ones illustrated by Ricketson (noted as belonging to Period I and sub-division not noted) as being example of Period I*b* (Chicanel), we find solid conical feet with pointed or flattened bases.[214] These types of feet do not appear to carry on into the Holmul I phase.[215] At Tres Zapotes, vessel feet appear first in the Middle phase and are in the main the cascabel type (small, globular, slitted, and hollow).[216] This type of feet appears to carry on into the Upper phase. However, small solid globular feet appear in the Middle phase only.[217] Drucker illustrated short solid conical and short hollow conical feet that one may infer came either from the Middle or Upper phase, but exact provenience is not noted.[218] In the Valley of Mexico, small tripod feet are present in both Early Zacatenco and Early Arbolillo.[219] They appear to be mainly of the short solid conical variety. The same type appears in the Middle Zacatenco and Arbolillo horizons, but in late Zacatenco and Ticoman times the type appears to be on the wane and is replaced by larger hollow bulbous types.[220] In Honduras vessel feet are absent in the Yojoa Monochrome horizon, but short solid nubbin feet appear in both the Playa de los Muertos and Ulua Bichrome horizons.[221] At Monte Alban, short solid (?) conical and short bulbous feet are present along with larger bulbous feet in Monte Alban I. The short varieties are absent in Monte Alban II.[222]

Incised Thickened Lips with Exterior Horizontal Projections (fig. 36, 1).—This trait is composed of a series of interrelated features. It has definite thickened lip, often somewhat everted, incising on the top of the lip (often with dots), and the lip has a series of scallops or projections that protrude horizontally outward from the center of the vessel. Generally speaking, it is similar to and perhaps developed from the wide everted lips that bear incising. However, it is definitely a different trait. It appears to be a trait not likely to be invented twice and is a diagnostic of the Temple Formative Period. In the Maya area it appears to be characteristic of the Chicanel Period [223] and is found in San Jose I in fair numbers.[224] It appears to be absent from the Mamom and Holmul I phases. At Panuco this trait first appears in Aguilar times, carries through the Chila Period, and reaches its greatest popularity in the Tancol complex of early El Prisco times.[225] At Tres Zapotes the trait is obviously present in the Ranchito collections; however, its temporal position was not definitely established in the "stratitests." [226] In Honduras this trait is very common in the Ulua and Playa del los Muertos Bichrome horizons.[227]

In the Valley of Mexico the trait is confined to Early Zacatenco.[228] At Monte Alban the trait is absent.

Bowls with Pronounced Basal Ridges (fig. 37, 7).—At Panuco, basal flanged bowls begin in late Aguilar times, are present in Chila Period deposits, and seem to be most frequent in the El Prisco Period.[229] They are absent in the Ponce and Pavon Periods. In the Maya area, they appear first in Chicanel horizon at Uaxactun [230] and are fairly numerous in San Jose I [231] and Mountain Cow 1*a*.[232] They carry on into the Holmul I horizon.[233] At Tres Zapotes they are rare, but one red and white dish has a definite basal ridge and is assignable to the Middle phase.[234] Some of the brown ware dishes also appear to have basal ridges, but temporal assignment is impossible, as they are included as both simple and composite dishes in Drucker

[209] Caso, 1938: fig. 34, no. 6.
[210] Strong, Kidder, and Paul, 1938: 112–115.
[211] Strong, Kidder, and Paul, 1938: pl. II.
[212] Strong, Kidder, and Paul, 1938: pl. 9.
[213] R. E. Smith, 1936.
[214] Ricketson, 1937: fig. 153*a–k* and p. 241.
[215] Vaillant and Merwin, 1932.
[216] Drucker, 1936*a*: 135–142, fig. 17.
[217] Drucker, 1936*a*: fig. 30.
[218] *Ibid.*
[219] Vaillant, 1930: 83; Vaillant, 1935: 19.
[220] Vaillant, 1930; Vaillant, 1931.
[221] Strong, Kidder, and Paul, 1938.
[222] Caso, 1938: fig. 35, 4; 35, 6.
[223] Ricketson, 1937: fig. 159.
[224] Thompson, 1939: fig. 24.
[225] Ekholm, 1944: fig. 28.
[226] Weiant, 1943: fig. 39 and 42.
[227] Strong, Kidder, and Paul, 1938: pl. 9 and 10.
[228] Vaillant, 1930: pl. II*e* and *d*.
[229] Ekholm, 1944: fig. 5.
[230] Ricketson, 1937: fig. 160; Smith, 1936: fig. 2.
[231] Thompson, 1939: fig. 28–29.
[232] Thompson, 1931: fig. 17.
[233] Merwin and Vaillant, 1932.
[234] Drucker, 1943*a*: 51, fig. 23*j*.

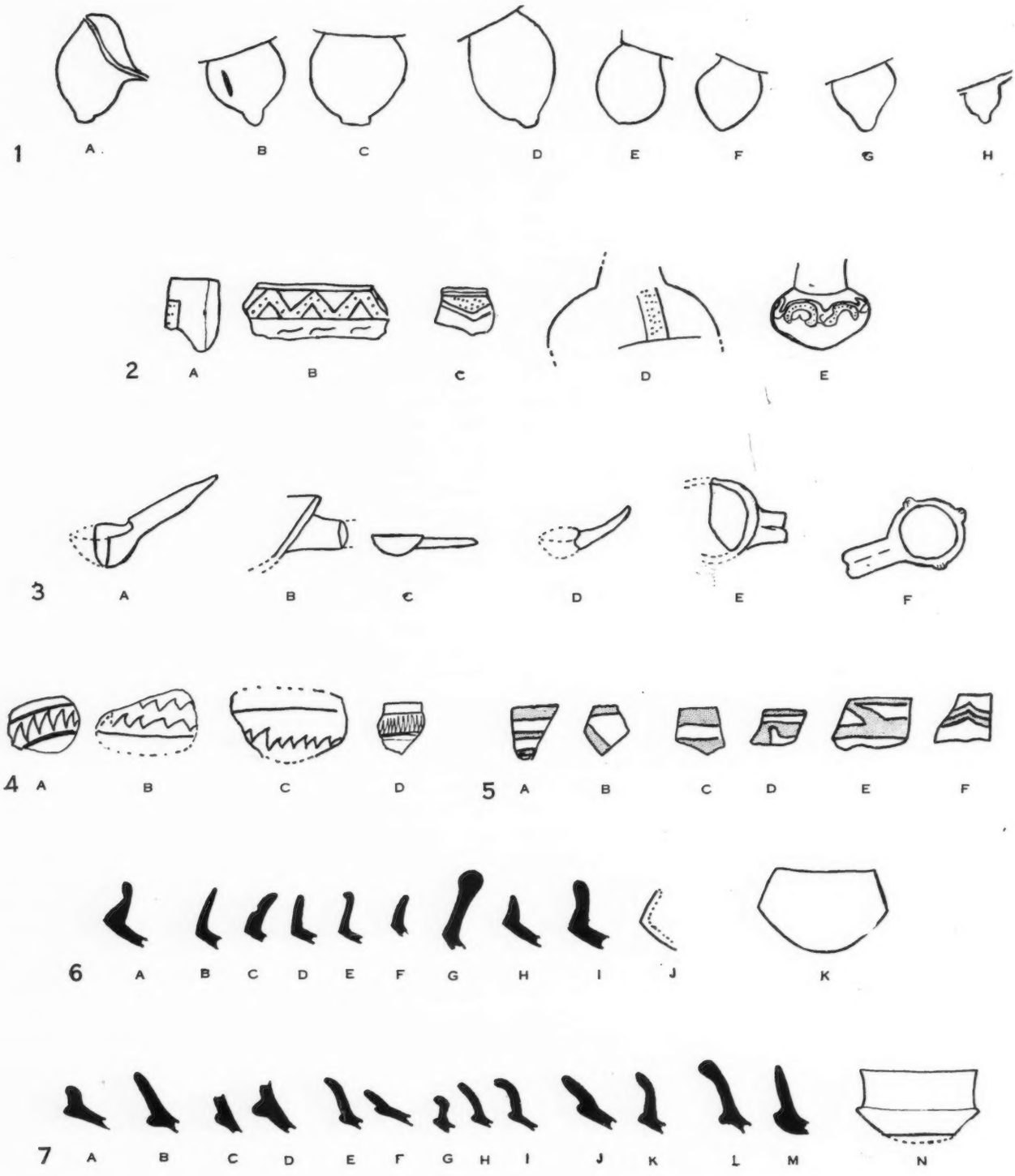


FIG. 37.

1. Mammiform vessel feet.
   (A) Weiant, 1943, fig. 50*b*. Middle Tres Zapotes B(?).
   (B) Vaillant and Merwin, 1932, pl. 18*e*. Holmul I.
   (C) Vaillant and Merwin, 1932, pl. 18*c*. Holmul I.
   (D) Caso, 1938, fig. 34, no. 7. Monte Alban I.
   (E) Caso, 1938, fig. 42. Monte Alban II.
   (F) Caso, 1938, fig. 40, no. 4. Monte Alban II.
   (G) Vaillant, 1930, pl. VIII*q*. Late Zacatenco.
   (H) Vaillant, 1931, pl. LXXV*k*. Ticoman.

charts on stratigraphy. At Monte Alban the trait is present in both the early periods.[235] In the Valley of Mexico, basal ridged bowls are very rare and only appear on the Ticoman horizon [236] and possibly in Middle El Arbolillo.[237] In Honduras, basal ridges or flanges have not been noted. However, in pl. 10 A, J from Playa de los Muertos both would appear to be sherds that might be construed to have basal ridges and fig. 9 D from Ulua Bichrome also might be one.[238]

Insloping Straight-sided Composite Silhouette Bowels (fig. 37, 6).—This trait is not one of the best because it is so closely related to the incurved-rim bowl type as well as the basal ridge bowls. Its distribution seems rather sporadic but generally speaking, it appears in the Temple Formative and Proto Classic Stages. At Panuco, there is a gradual development from the incurved-rim bowl (profiles 16 and 17 of fig. 17) into an insloping-sided bowl with the side at a definite angle to the convex bottom. This starts during Aguilar times and carries through the El Prisco Period.[239] There is a general tendency for the insloping side to change from a slightly convex side to a straight side. In the Maya area vessels of this shape are most uncommon. The nearest thing to it is to be found in the Chicanel phase, and the one illustrated has a slight thickened and vertical rim.[240] This variant of the insloping composite silhouette appears to be uncommon at Tres Zapotes,[241] though Weiant illustrated an insloping straight-sided composite silhouette pot from surface burials from Tres Zapotes (Middle B?).[242] In the Valley of Mexico, the straight-sided form is present in El Arbolillo I and II burials [243] as well as in Middle Zacatenco.[244]

As far as can be determined from the publications, this form is absent at Monte Alban and Honduras.

Red on White Bichrome.—This appears to be a good Temple Formative Stage time marker (except for its presence in Mamom). At Panuco, red on white sherds, though appearing as trade sherds in the Aguilar and Chila Periods, are not numerous and evidently are

[235] Caso, 1938: fig. 34, no. 4; fig. 36, no. 3.
[236] Vaillant, 1931: pl. LXXIV*o*.
[237] Vaillant, 1935: fig. 19, 7.
[238] Strong, Kidder, and Paul, 1938.
[239] Ekholm, 1944: fig. 5.
[240] Ricketson, 1937: fig. 157*d*.
[241] Drucker, 1943*a*: fig. 38 L, and fig. 23*b* and *d*.
[242] Weiant, 1943: fig. 19*a*.
[243] Vaillant, 1935: fig. 21, no. 2.
[244] Vaillant, 1930: pl. V*g*.

2. Zoned punctate decoration.
   - (A) This report, see fig. 15, 6. Chila Period.
   - (B) Ekholm, 1944, fig. 28*w*. Tancol complex of Early El Prisco Period.
   - (C) Vaillant, 1931, pl. LXXIV*g*. Ticoman.
   - (D) Drucker, 1947, pl. I. La Venta, Middle Tres Zapotes B.
   - (E) Strong, Kidder, and Paul, 1939, fig. 18*a*. Playa de los Muertos.

3. Ladles or dippers.
   - (A) Ekholm, 1944, fig. 13*v*. El Prisco.
   - (B) Drucker, 1943*a*, fig. 41*n*. Middle Tres Zapotes.
   - (C) Drucker, 1943b, fig. 12*ee*. Cerro de las Mesas, Lower I or II.
   - (D) Vaillant, 1935, fig. 23*b*. Early El Arbolillo.
   - (E) Vaillant, 1931, Pl. LXXX, no. 16. Ticoman.
   - (F) Caso, 1938, fig. 39, no. 8. Monte Alban Period II.

4. Rocker stamping.
   - (A) Tlatilco in MacNeish's private collection.
   - (B) Drucker, 1947, pl. I. La Venta.
   - (C) Drucker, 1947, pl. I. La Venta.
   - (D) Strong, Kidder, and Paul, 1939, pl. IX. Ulua Bichrome.

5. Red paint outlined by incising.
   - (A) Drucker, 1943*b*, fig. 135. Cerro de las Mesas. Lower I.
   - (B) Drucker, 1943*b*, fig. 136. Cerro de las Mesas. Lower I.
   - (C) Ekholm, 1944, fig. 29*A*. Tancol Complex of Early El Prisco Period.
   - (D) Ekholm, 1944, fig. 29*B*. Tancol Complex of Early El Prisco Period.
   - (E) Vaillant, 1931, pl. LXX*g*. Ticoman.
   - (F) Vaillant, 1930, pl. XI*e*. Late Zacatenco.

6. Insloping-sided composite silhouette bowls.
   - (A) Ricketson, 1937, fig. 157*d*. Chicanel Phase of Uaxactun.
   - (B) This report, no. 16 of fig. 17. Mainly Chila Period though in Aguilar Period.
   - (C) Ekholm, 1944, fig. 4*m*. Chila Period.
   - (D) Ekholm, 1944, fig. 5*T*. El Prisco Period.
   - (E) Ekholm, 1944, fig. 5*j*. El Prisco Period.
   - (F) Vaillant, 1930, pl. V*g*. Middle Zacatenco.
   - (G) Drucker, 1943*a*, fig. 38*l*. Middle Tres Zapotes or later.
   - (H) Drucker, 1943*a*, fig. 23*b*. Middle Tres Zapotes or later.
   - (I) Drucker, 1943*a*, fig. 23*d*. Middle Tres Zapotes or later.
   - (J) Weiant, 1943, fig. 19*a*. Middle Tres Zapotes or later.
   - (K) Vaillant, 1935, fig. 21, no. 2. El Arbolillo I.

7. Basal Flanged bowls.
   - (A) Thompson, 1939, fig. 28*e*. San Jose I.
   - (B) R. E. Smith, 1936, fig. 2 (17). Chicanel.
   - (C) Ricketson, 1937, fig. 160*c*. Chicanel.
   - (D) Ricketson, 1937, fig. 160*B*. Chicanel.
   - (E) See this report, no. 11 of fig. 17. Mainly Chila. Period.
   - (F) Ekholm, 1949, fig. 5*i*. El Prisco.
   - (G) Ekholm, 1944, fig. 5*R*. El Prisco.
   - (H) Ekholm, 1944, fig. 5*B*. El Prisco.
   - (I) Ekholm, 1944, fig. 5*A*. El Prisco.
   - (J) Drucker, 1943*a*, fig. 23*j*. Middle Tres Zapotes.
   - (K) Vaillant, 1931, pl. LXXIV*o*. Ticoman.
   - (L) Thompson, 1939, fig. 29*b*. San Jose I.
   - (M) Drucker, 1943*b*, fig. 54. Cerro de las Mesas, Lower I or II.
   - (N) Caso, 1938, fig. 34, no. 4. Monte Alban I.

totally absent from the El Prisco Period.[245] In the Maya area, red on white sherds are present only in significant amounts in San Jose I.[246] In the Mamom period there may be some present as I received a sherd labeled red on white from Mamom from R. E. Smith. Quite frankly, if this sherd is representative, then this type is really not red on white but red and white for the exterior is painted red without a trace of white and the interior is painted white without a trace of red. At Tres Zapotes, red on white sherds are only found in the Middle phase.[247] In the Valley of Mexico, red on white is found in all Pre-Classic horizons.[248] At Monte Alban, red on white is found mainly in Period I.[249] In Honduras this bichrome is missing from the Yojoa Monochrome horizon but is present in both the Playa de los Muertos [250] and Ulua Bichrome horizons.[251]

Mounds.—This trait seems to start not earlier than the Temple Formative Stage. There is a general tendency for these to be isolated mounds in the Temple Formative Stage, while in Proto-Classic (and later) these mounds are grouped around plazas. In the Huasteca, a few of the isolated mounds at Chila appear to belong to the Chila Period. However, it is not until El Prisco times that large groups of mounds such as the ones around Laguna Tortuga and at Chila began to be conspicuously present. In the Maya area, Chicanel sees the first building of an isolated mound, while in Holmul I mound building seems more extensive.[252] At Tres Zapotes, extensive mound building appears to be confined to the Upper phase according to to Drucker.[253] At Monte Alban, mound building begins in Period I.[254] In the Valley of Mexico, mound building seems to start in Ticoman times at Teotihuacan I and Cuicuilco.[255]

Red Paint Outlined by Incising.—This trait is rather limited, and except for one occurrence in Playa de los Muertos and one case in Early Zacatenco which looks aberrant, it looks like a Proto-Classic trait. It does not appear in the Panuco area until El Prisco times in the Tancol complex.[256]

In the Valley of Mexico, the trait is mainly in Ticoman [257] and Late Zacatenco.[258]

In Southern Vera Cruz, it appears in the Cerro de las Mesas Lower I,[259] and Weiant has it as appearing in Middle Tres Zapotes B.[260] It is perhaps a good link trait for the more northern Proto-Classic manifestations.

Rocker Stamping.—Traits with this decorative technique are relatively rare in Meso-America so the trait is not too strong for that reason. However, the trait is rather complex and in Meso-America (with the exception of a pot from Holmul 5)[261] it appears to be confined to the late stages of the Temple Formative Period, being found at La Venta (late Middle Tres Zapotes),[262] Tlatilco (Late-Middle Zacatenco)[263] and in the Ulua Bichrome horizon.[264] As has been mentioned before, this trait might very well be a link trait for much of the New World.[265]

Ladles or Dippers.—This is rather a good time marker for late Temple Formative and Proto-Classic. However, like many late traits it has a spotty distribution. At Panuco dippers first appear in the El Prisco Period.[266] This trait is absent in the Maya and Honduras areas. At Tres Zapotes ladles are called the frying pan type of incensario.[267] What Drucker means by a frying pan is illustrated in the Cerro de las Mesas report, fig. 12*ee*. These occur in the late part of the Middle phase in Tres Zapotes,[268] and zoomorphic dipper handles are mentioned for the Upper phase.[269] In the Valley of Mexico ladles are present at Zacatenco in the Middle and Late Periods.[270] At El Arbolillo a few are found in Period I, but the bulk of them come from the Middle Period.[271] At Gualupita they are fairly common in Periods I & II,[272] while they are present in all periods at Ticoman.[273] At Monte Alban one is illustrated for Period II.[274] One might suspect that ladles were invented in the Valley of Mexico during the Temple Formative Stage and diffused to other areas in Proto-Classic times.

Zoned Punctate.—This seems to be a diagnostic trait, found mainly in the Proto-Classic Stage but present in the Temple Formative. At Panuco one sherd of zoned punctate was found in the Chila Period, while many were found in the Tancol complex of the El Prisco Period.[275] In the Maya area and at Monte Alban, the trait is not present. In Honduras one pot from Playa de los Muertos bears this decoration.[276] In the Valley

[245] Ekholm, 1944: fig. 29.
[246] Thompson, 1939: 85.
[247] Drucker, 1943*a*: 137, 139, 59.
[248] Vaillant, 1930.
[249] Caso, 1938.
[250] Strong, Kidder, and Paul, 1938: 74.
[251] Strong, Kidder, and Paul, 1938: 68.
[252] Smith and Smith, 1950.
[253] Drucker, 1943*a*: 116.
[254] Caso, 1938.
[255] Vaillant, 1941: 28–50.
[256] Ekholm, 1944: 29, fig. 29 A, B.
[257] Vaillant, 1931: pl. LXX.
[258] Vaillant, 1930: pl. XI.
[259] Drucker, 1943*b*: fig. 135–136.
[260] Weiant, 1943: fig. 26.
[261] Thompson, 1931: pl. XLVIII.
[262] Drucker, 1947: pl. 1.
[263] Muriel Porter, Ph.D. thesis for Columbia University.
[264] Strong, Kidder, and Paul, 1938: pl. IX.
[265] Griffin and Krieger, 1947: 164–165.
[266] Ekholm, 1944: 346.
[267] Drucker, 1943*a*: 70.
[268] Drucker, 1943*a*: 137.
[269] Drucker, 1943*a*: 116.
[270] Vaillant, 1930: table I.
[271] Vaillant, 1935: 236.
[272] Vaillant, 1934: table 2.
[273] Vaillant, 1931: table 1.
[274] Caso, 1938: fig. 39, no. 8.
[275] Ekholm, 1944.
[276] Strong, Kidder, and Paul, 1939: fig. 18*a*.

of Mexico one sherd from Ticoman [277] bears this decoration, while it also is present at La Venta in southern Vera Cruz.[278]

Mammiform Feet.—This trait appears mainly in the Proto-Classic stage and does not seem to have widespread significance. The trait is absent from the Pre-Classic of the Huasteca, and seems to be rare if not absent at Tres Zapotes. However, Weiant does illustrate one foot of this class from the Ranchito site, but its exact period is difficult to determine.[279] In Honduras, the trait is absent from the earlier horizons, Yojoa Monochrome, Playa de los Muertos, and Ulua Bichrome. However, Wauchope notes that it appears in the later Copan Archaic.[280] In the Maya area the mammiform vessel foot is typical only of the Holmul I period,[281] while at Monte Alban this kind of foot appears in Periods I and II.[282]

In the Valley of Mexico, these swollen feet are found in late Zacatenco [283] and in Ticoman.[284]

[277] Vaillant, 1939: pl. LXXIV*g*.
[278] Drucker, 1947: pl. 1.
[279] Weiant, 1943: fig. 50*b*.
[280] Wauchope, 1950.
[281] Vaillant and Merwin, 1932: pl. XVIII.
[282] Caso, 1938: figs. 34, 40, 42.
[283] Vaillant, 1930: pl. VIII.
[284] Vaillant, 1931: pl. LXXV.

Polychrome Painting.—This trait is not good because it is not well defined, since the polychrome painting is often of very different colors. However, the trait does appear to have temporal significance, never being found before Proto-Classic times. The trait is absent in all Pre-Classic horizons at Panuco unless the Fresco decorated sherds be considered such. If the Fresco decorated sherds are polychrome, then at Panuco it is present in El Prisco. In spite of Drucker's terminology which names a paste type polychrome, it appears to be absent from the Lower phase at Tres Zapotes and is rare (if present at all) in Middle Tres Zapotes.[285] It is present, however, in Upper Tres Zapotes.[286] In the Maya area red and black are added to the red or brown-white slip in Holmul I.[287] Some of "El Fresco" wares in Monte Alban I and II appear to be polychromes.[288] In the Valley of Mexico in Late Zacatenco [289] and Ticoman,[290] red on yellow with the red outlined by white represents the first definite polychromes.

[285] Drucker, 1943*a*.
[286] Drucker, 1943*a*: 116.
[287] Vaillant and Merwin, 1932.
[288] Caso, 1938.
[289] Vaillant, 1930.
[290] Vaillant, 231.

BIBLIOGRAPHY

ARMILLAS, PEDRO. 1948. A sequence of cultural development in Meso America. *Mem. of Soc. Amer. Arch.* **4**.

ARNOLD, J. R., and W. F. LIBBY. 1950. Radiocarbon dates. Institute for Nuclear Studies, University of Chicago Press.

CASO, A. 1938. Exploraciones en Oaxaca. *Inst. Pana. Amer. de Geo. e Hist.*, Pub. 34, Mexico.

DRUCKER, PHILIP. 1943*a*. Ceramic sequences at Tres Zapotes, Veracruz, Mexico. *Bureau Amer. Ethnol. Bull.* **140**. Washington.

——. 1943*b*. Ceramic stratigraphy at Cerro de las Mesas, Veracruz, Mexico. *Bureau Amer. Ethnol. Bull.* **141**. Washington.

——. 1947. Some implications of the ceramic complex of La Venta. *Smithsonian Miscell. Coll.* **107**.

EKHOLM, GORDON. 1944. Excavations at Tampico and Panuco in the Huasteca, Mexico. *Anthrop. Papers of Amer. Mus. of Natural Hist.* **38** (5).

GRIFFIN, JAMES B., and ALEX D. KRIEGER. 1947. Notes on some ceramic techniques and intrusions in Central Mexico. *Amer. Antiq.* **12** (3).

GORDON, GEORGE BYRON. 1898. Researches in the Uloa Valley, Honduras. *Mem. Peabody Mus. Amer. Arch. and Ethnol.* **1** (4).

KIDDER, A. V., J. D. JENNINGS, and E. M. SHOOK. 1946. Excavations at Kaminaljuyu, Guatemala. Carnegie Institution of Washington, **576**.

KROEBER, A. L. 1939. Cultural and natural areas of native North America **38**. Univ. of Calif. Press.

——. 1940. "Conclusions" in the Maya and their neighbors. New York, D. Appleton-Century Co.

LINNE, S. 1934. Archaeological researches at Teotihuacan, Mexico. *Ethnog. Mus. Sweden* **1**, Stockholm.

MACNEISH, R. S. 1947. A preliminary archaeological survey of coastal Tamaulipas, Mexico. *Amer. Antiq.* **13** (1).

RITCHIE, W. A., and R. S. MACNEISH. 1949. The pre-Iroquoian pottery of New York State. *Amer. Antiq.* **15** (2).

MASON, J. ALDEN. 1940. Native language of Middle America. *In* The Maya and their neighbors. New York, D. Appleton-Century Co.

MERWIN, R. E., and GEORGE C. VAILLANT. 1932. The ruins of Homul. *Memoirs Peabody Mus. Amer. Arch. and Ethnol.* **3** (2).

POPENOE, DOROTHY H. 1934. Some excavations at Playa de los Muertos, Ulua River, Honduras. *Maya Research* **1** (1).

RICKETSON, E. B., and O. G. RICKETSON. 1937. Uaxactun, Guatemala Group E 1926–1931. Carnegie Institution of Washington, **447**.

SMITH, A. L. 1950. Uaxactun, Guatemala: Excavations of 1931–1937. Carnegie Institution of Washington, **588**.

SMITH, R. E. 1936*a*. Preliminary shape analysis of the Uaxactun pottery. (Mimeographed by Carnegie Inst. of Washington for student use.)

——. 1936*b*. Ceramics of Uaxactun: a preliminary analysis of decorative technics and designs. (Mimeographed by Carnegie Inst. of Wash. for student use.)

——. 1940. Ceramics of the Peten. *In* The Maya and their neighbors. New York, D. Appleton-Century Co.

STRONG, W. D., A. KIDDER II, and A. J. D. PAUL. 1938. Preliminary report of the Smithsonian Institution–Harvard University Archaeological expedition to northwestern Honduras, 1936. *Smithsonian Miscel. Coll. Washington* **97** (1).

STRONG, W. D. 1943. Cross sections of New World prehistory. *Smithsonian Miscel. Coll. Washington* **104** (2).

THOMPSON, J. ERIC. 1931. Archaeological investigations in the southern Cayo district, British Honduras. Field Museum of Natural History, 301, Anthropological Series 18 (3).

——. 1939. Excavations at San Jose, British Honduras. Carnegie Institution of Washington, 506.

——. 1942. Late ceramic horizons at Benque Viejo, British Honduras. *Contributions to Amer. Anthro. and Hist., Carnegie Inst. Washington* 528, **7** (35).

VAILLANT, GEORGE C. 1941. Aztecs of Mexico. New York, Doubleday Doran Inc.

——. 1935. Excavations at El Arbolillo. *Anthrop. Papers of the Amer. Mus. of Natural Hist.* **15** (2).

——. 1930. Excavations at Zacatenco. *Anthrop. Papers of the Amer. Mus. of Natural Hist.* **32** (1).

——. 1931. Excavations at Ticoman. *Anthrop. Papers of the Amer. Mus. of Natural Hist.* **32** (1).

VAILLANT, SUZANNAH B., and GEORGE C. VAILLANT. 1934. Excavations at Gualupita. *Anthrop. Papers of the Amer. Mus. of Natural Hist.* **35** (1).

WAUCHOPE, ROBERT. 1934. Hose Mounds of Uaxactun, Guatemala. Carnegie Institution of Washington, **436** (7).

——. 1950. A tentative sequence of Pre-Classic ceramics in Middle America. *Middle American Research Records* **1** (14).

WEIANT, C. W. 1943. An introduction to the ceramics of Tres Zapotes, Veracruz, Mexico. *Bureau of Amer. Ethnol. Bull.* **139**, Washington.

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